



LEIA Safety Information Sheet The Provision and Use Of Work Equipment Regulations 1998 Particularly in Relation to Lifts

Prepared by the LEIA Safety and Environment Committee

SAFETY INFORMATION SHEET

THE PROVISION AND USE OF WORK EQUIPMENT REGULATIONS 1998 PARTICULARLY IN RELATION TO LIFTS

PREAMBLE

This Information Sheet is one of a series produced by the LEIA Safety and Environment Committee on topics relevant to the UK Lift and Escalator Industry. Whilst every effort has been taken in the production of these sheets, it must be acknowledged that they should be read in conjunction with the relevant legislation, codes of practice etc. They should not be taken as an authoritative interpretation of the law but a guidance to it.

INTRODUCTION

The Provision and Use of Work Equipment Regulations 1998 (PUWER) came into force on 5 December 1998 replacing PUWER 1992 and applies to both new and existing work equipment. The Regulations apply to machinery, appliances, apparatus or tools used in any work activity and sets out important health and safety requirements for the provision and use of work equipment.

These regulations are to be considered in conjunction with :

- The Management of Health and Safety Regs 1999
- Lifting Operations and Lifting Equipment Regulations 1998 (LOLER)
- Workplace (Health & Safety and Welfare) Regs 1992
- Display Screen Regs 1992,
- Personnel Protective Equipment Regs 1992 and
- Construction (Design and Management) Regs 2015

There is no specific mention of assessments in PUWER but emphasis on risk assessment through the “Management of Health & Safety Regulations 1999” still remains.

The erecting and dismantling of work equipment is covered, and must be carried out in accordance with the manufacturer’s instructions.

Lifting equipment used at work falls under both PUWER and LOLER. Both should be considered when risk assessments are undertaken.

DEFINITIONS

WORK EQUIPMENT

means any machinery, appliance, apparatus, tool or installation for use at work (whether exclusively or not);

(PUWER Regulation 2(1) Interpretation)

- Work Equipment means any machinery, appliance, apparatus, tool or installation for use at work, such as lifting hoists, ladders, drilling machines and hand held tools. It covers everything from an oil rig to a screwdriver.

USE OF EQUIPMENT

“use” in relation to work equipment means any activity involving work equipment and includes starting, stopping, programming, setting, transporting, repairing, modifying, maintain ing, servicing and cleaning;

(PUWER Regulation 2(1) Interpretation)

RESPONSIBILITIES

Employers have a duty to ensure that items of work equipment provided to their employees comply with these Regulations. This means that lift companies supplying work equipment that falls under the definition mentioned above must ensure that they satisfy the requirements of the regulations.

A person in control of non-domestic premises has a duty under Section 4 of The Health and Safety at Work Act etc 1974 towards those who are not their employees but use their premises. The PUWER Regulations build on those duties.

A person in control of a non-domestic premise who provides items of work equipment which are used by other people at work must also comply with these regulations. An example of this would be the owner of a multi-occupied building having the legal responsibility to ensure that a lift (being a piece of work equipment) complies with these Regulations.

PUWER cannot be considered in isolation. The Regulations need to be considered together with other statutory duties but particularly the Management of Health and Safety at Work Regulations 1999. Regulation 3 of which requires all employers to assess the risks to health and safety of employees and others who may be affected by the work carried out for the purpose of identifying the measures needed to be taken to comply with other legislation.

The following highlight particularly relevant aspects of the Provision and Use of Work Equipment Regulations relevant to our industry. The text in italics is the extract taken from the Regulations.

SUMMARISING THE ABOVE

A lift is 'work equipment' whether used in the conventional way for transporting people and goods at work or by those at work undertaking a maintenance activity. The lift owner, either as the employer of those using the lift or as the person employing the services of those undertaking the maintenance of his lift, has a responsibility for ensuring its suitability for the work to be undertaken.

REGULATION 4 - SUITABILITY OF WORK EQUIPMENT

Every employer shall ensure that work equipment is so constructed or adapted as to be suitable for the purpose for which it is used or provided.

In selecting work equipment regard must be taken of the working conditions, both in terms of the place and purpose, and to the risks to health and safety. The work equipment must only be used for the operations for which it is suitable (i.e. reasonably foreseeable that it will not affect the health or safety of any person).

Thus if a lift is overloaded or a lifting beam's safe working load (SWL) is exceeded the Regulations would be breached. Risk assessments must be used in the selection of suitable work equipment taking account of the task and conditions. This would also be true when identifying, following a risk assessment, the suitability of tools e.g. where a screwdriver is to be used on live electrical equipment it would need to be non-conductive.

REGULATION 5 - MAINTENANCE

Every employer shall ensure that work equipment is maintained in an efficient state, in efficient working order and in good repair.

Every employer shall ensure that where any machinery has a maintenance log, the log is kept up to date.

'Efficient' relates to how the condition of the equipment might affect health and safety: it is not concerned with productivity. It is important that equipment is maintained so its performance does not deteriorate to the extent that puts people at risk. Equipment may need to be checked frequently to ensure safety-related features are functioning correctly. A lift owner who failed to ensure his lift was maintained would be in breach of the regulations.

There are legal requirements for lifts to be thoroughly examined by a competent person. This Thorough Examination should not be confused with maintenance. Both elements maintenance and thorough examination are required.

Components which are found to have failed or are likely to fail before the next periodic check should be repaired or replaced.

Procedures, following an assessment, must be established to ensure maintenance of work equipment commensurate with the risks they present. It is recommended that maintenance is recorded which for lifts, if provided, is typically on a log card.

Maintenance must only be undertaken by those who have received adequate information, instruction and training.

REGULATION 6 - INSPECTION

Regulation 6, (5) (c) does not apply to work equipment for lifting loads including persons as LOLER Regulation 9 Thorough Examination and Inspection requirements is more detailed.

REGULATION 7 - SPECIFIC RISKS

Where the use of work equipment is likely to involve a specific risk to health and safety every employer shall ensure that:-

The use of that work equipment is restricted to those persons given the task of using it; and.

Repairs, modifications, maintenance or servicing is restricted to those persons who have been specifically designated to perform operations of that description.

This requirement is closely linked with the legal requirements for risk assessment. Such assessments should be suitable and sufficient.

Lift service, installation and repairs engineers need to be adequately trained to deal with the specific risks associated with lifts.

In some circumstances some training of lift users or customer's staff may be required to cover specific risks.

REGULATION 8 - INFORMATION AND INSTRUCTIONS

Every employer shall ensure that all persons who use work equipment and those who supervise them have available:-

- *Adequate health and safety information; and*
- *Instructions (where appropriate written) pertaining to the use of the work equipment.*

Information and instruction (where appropriate written) shall include:-

- a) *The conditions in which and the methods by which the work equipment may be used.*
- b) *Foreseeable abnormal situations and the action to be taken if such a situation were to occur.*
- c) *Any conclusions to be drawn from experience in using the work equipment*

Information and instructions must be readily comprehensible.

Employers should make available all relevant health and safety information and written instructions on the use of work equipment and ensure these can be understood by all. Examples of this may be by means of method statements, manuals, drawings and circuit diagrams as well as standard company procedures.

The degree of skill of the employees involved, their experience and training, the degree of supervision and the complexity and length of the particular job must be taken into account when deciding on the adequacy of information and instruction to be provided.

A written Safety Plan or Method Statement detailing the method to be followed together with safety control measures may assist in satisfying this requirement.

- Any written information must be comprehensible, this compliments the “Lifts Regulations1997”.

REGULATION 9 - TRAINING

All persons who use work equipment or supervise or manage persons using it shall have received adequate training for purposes of health and safety, including the methods to be adopted and any risks which such use may entail and the precautions to be taken.

Adequate training is difficult to define. Any shortfall between the employee's existing competence and that necessary to use, supervise or manage, maintain etc the work equipment, with due regard to health and safety, will need to be evaluated. Account must be taken of the circumstances in which the employee is to work e.g. alone, moving equipment etc.

Training coupled with proper supervision is particularly important for young people and persons undergoing training. Induction training is especially essential for newcomers who may be unaware of the hazards involved with a piece of work equipment.

REGULATION 11 - DANGEROUS PARTS OF MACHINERY

(1) Every employer shall ensure that measures are taken in accordance with (2) which are effective:-

- a) *to prevent access to any dangerous part of machinery or;*
- b) *to stop the movement of any dangerous part of machinery before any part of a person enters a danger zone.*

(2) Measures required by (1) shall consist of:-

- a) *the provision of fixed guards enclosing every dangerous part, where and to the extent that it is practicable to do so, but where or to the extent that it is not, then;*
- b) *the provision of other guards or protection devices where and to the extent that it is practicable to do so, but where or to the extent that it is not, then;*
- c) *the provision of jigs, holders or similar protection appliances used in conjunction with the machinery where and to the extent that it is practicable to do so, but where or to the extent that it is not, then;*
- d) *the provision of information, instruction training and supervision.*

The requirement of this regulation must be considered as a consequence of risk assessment - taking account of the likelihood, severity and exposure i.e. 'present a reasonably foreseeable risk'. In terms of lifts it does not just apply to machinery guarding e.g. traction sheaves but also other dangers e.g. counterweight, voids in the lift shaft etc.

The term 'practicable' in a paragraph (2) implies if it is technically possible and therefore in most cases fixed guards will be the required control measure. All guards should be suitable for the purpose and be of good construction, sound material and adequate strength. Guards need to be situated at sufficient distance from the danger zone and should satisfy the requirements of BS EN ISO 14120:2015 for design and construction of machine guards, BS EN ISO 14120:2015 replaces BS EN 953 and ISO 14120:2002.

- Dangerous parts of machinery require "GUARDING". The HSE definition of a dangerous part is any piece of work equipment that when used in its foreseeable way can cause an injury. Main parts of lift equipment to be guarded are Traction Sheaves, Fixed Flywheels, Rotating Governor Wheels, moving parts on door operators, chains and belts. (See also LEIA Safety Information Sheet 28 on Guarding)

REGULATION 12 - PROTECTION AGAINST SPECIFIED HAZARDS

- (1) *Every employer shall take measures to ensure that the exposure of a person using work equipment to any risk to his health or safety from any hazard specified in paragraph (3) is either prevented, or, where that is not reasonably practicable, adequately controlled.*
- (2) *The measures required by (1) shall be measures other than the provision of personal protective equipment or information, instruction, training and supervision so far as is reasonably practicable and include, where appropriate, measures to minimise the effects of the hazard as well as to reduce the likelihood of a hazard occurring.*
- (3) *Hazards are:-*
 - any article or substance falling or being ejected from work equipment*
 - rupture or disintegration of parts of work equipment*
 - work equipment catching fire or overheating*
 - the unintended or premature discharge of any article or of any gas, dust, liquid, vapour, or other substance which, in each case, is produced, used or stored in the work equipment.*
 - the unintended or premature explosion of the work equipment or any article or substance produced, used or stored in it.*

This Regulation will not apply where other regulations are applicable e.g. Control of Substances Hazardous to Health Regulations 2002 (as amended) , Control of Asbestos Regulations 2006, Electricity at Work Regulations 1989.

This Regulation refers particularly to the hazards of articles and substances being ejected from the work equipment e.g. hydraulic oil being unexpectedly discharged or an abrasive wheel rupturing. Again a risk assessment is required to ensure that any likely exposures are adequately controlled.

Most of the foreseeable specified hazards associated with lifts are controlled adequately by compliance with the appropriate sections of the EN standards and the essential health and safety requirements of the Lifts Regulations 1997 or the Machinery Regulations 1992. However equipment pre dating these standards may be considered to be in breach of PUWER. (e.g. lack of overspeed governors)

REGULATION 13 - HIGH OR VERY LOW TEMPERATURE

Every employer shall ensure that work equipment, parts of work equipment and any article or substance produced, used, or stored in work equipment which, in each case, is at a high or very low temperature shall have protection where appropriate so far as to prevent injury to any person by burn, scald or sear.

It may be necessary to mark accessible surfaces of machinery or equipment if they are likely to be hot or cold enough to cause harm. The first action wherever possible should be engineered protective measures to avoid such contact.

REGULATION 14 - CONTROLS FOR STARTING OR MAKING A SIGNIFICANT CHANGE IN OPERATING CONDITIONS

(1) Every employer shall ensure that, where appropriate, work equipment is provided with one or more controls for the purpose of:-

starting the work equipment, or

controlling any change in the speed, pressure or other operating conditions of the work equipment where such conditions after the change result in risk to health and safety which is greater than or of a different nature than such risks before the change.

(2) Subject to paragraph (3) every employer should ensure that where a control is required by paragraph (1), it shall not be possible to perform any operation mentioned earlier except by deliberate action of such control.

(3) Paragraph (1) shall not apply to restarting or changing operation conditions as a result of normal operations cycle of an automatic device.

The purpose of this regulation is to ensure that users or others are not caught unaware by any changes in the operating conditions of the equipment in use. For example a non BS EN 81-20, or BS 7255 car top control which has toggle switches capable of being accidentally operated; The hold-to-run devices and shrouding not being designed and positioned so as to prevent, so far as possible, inadvertent or accidental operation; could be considered to be in breach of this regulation.

REGULATION 15 - STOP CONTROLS

(1) Every employer shall ensure that, where appropriate, work equipment is provided with one or more readily accessible controls the operation of which will bring the work equipment to a safe condition in a safe manner.

(2) Any control required by paragraph (1) shall bring the work equipment to a complete stop, where necessary, for reasons of health and safety.

(3) Any control required by paragraph (1) shall, if necessary, for reasons of health and safety, switch off all sources of energy after stopping the function of the work equipment.

(4) Any control required by paragraph (1) shall operate in priority to any control which starts or changes the operating conditions of the work equipment.

The stop controls on lift equipment e.g. pit switch, car top stop switch, will satisfy the requirement to bring the equipment to a safe condition in a safe manner.

NOTE: The fitting of pit props when working under lifts recognises machinery may still move even though the power has been interrupted by the pit stop switch.

REGULATION 16 - EMERGENCY STOP CONTROLS

- (1) *Every employer shall ensure that, where appropriate, work equipment is provided with one or more readily accessible emergency stop controls unless it is not necessary by reason of the hazards and the time taken for the work equipment to come to a complete stop as a result of the action of any control provided by the requirements of the stop controls.*
- (2) *Any control required by paragraph (1) shall operate in priority to any control required by the Regulations covering stop control.*

On lift equipment the stop controls also act as emergency stop controls.

REGULATION 17 - CONTROLS

- (1) *Every employer shall ensure that all controls for work equipment shall be clearly visible and identifiable by appropriate marking when necessary.*
- (2) *Except when necessary, the employer shall ensure that no control for work equipment is in a position where any person operating the control is exposed to a risk to his health and safety.*
- (3) *Every employer shall ensure, where appropriate:-*

that, so far as is reasonably practicable, the operator of any control is able to ensure from the position of that control that no person is in a place where he would be exposed to any risk to his health or safety as a result of the operation of that control, but where or to the extent that it is not reasonably practicable.

that, so far as is reasonably practicable, systems of work are effective to ensure that, when work equipment is about to start, no person is in a place where he would be exposed to a risk to his health or safety as a result of the work equipment starting, but where neither of these is reasonably practicable.

that an audible, visible, or other suitable warning is given by virtue of Regulation 24 whenever work equipment is about to start;

- (4) *Every employer shall take appropriate measures to ensure that any person who is in a place where he would be exposed to a risk to his health and safety as a result of the starting or stopping of work equipment has sufficient time and suitable means to avoid that risk.*

This Regulation implies car top controls must be provided on all lifts where persons are required to travel on the car. Regulation 14 of PUWER addresses the design features that the car top control should have. The requirements are that all controls are clearly visible and identifiable - with appropriate markings.

This Regulation also covers the positioning of equipment such as pit stop switches such that they can be operated without risk .

REGULATION 18 - CONTROL SYSTEMS

- (1) *Every employer shall ensure, so far as is reasonably practicable, that all control systems of work equipment are safe.*
- (2) *Without prejudice to the generality of paragraph (1) a control system shall not be safe unless:-
it's operation does not create any increase risk to health or safety;*

it ensures, so far as reasonably practicable, that any faults in or damaged to any part of the control system or loss of supply of any source of energy used by the work equipment cannot result in additional or increased risk to health or safety;

it does not impede the operation of any control required by PUWER Regulation 15 or 16.

The measures which should be taken in the design and application of control systems should ensure that the system is 'fail safe'

REGULATION 19 - ISOLATION FROM SOURCES OF ENERGY

- 1) *Every employer shall ensure that, where appropriate, work equipment is provided with suitable means to isolate it from all sources of energy.*
- 2) *Without prejudice to the generality of paragraph (1) the means mentioned in the paragraph shall not be suitable unless they are clearly identifiable and readily accessible.*
- 3) *Every employer shall take appropriate measures to ensure that reconnection of any energy source to work equipment does not expose any person using the work equipment to any risk to his health and safety.*

Isolation means establishing a break in the energy supply in a secure manner and ensuring that inadvertent re-connection is not possible. This should be part of the risk assessment and may require an isolating switch or valve to be locked in the off or isolated position. The main aim of the Regulation is to allow equipment to be made safe. Clear markings on switches in the machine room is a requirement of this Regulation. Isolation of energy, where more than one person may be involved in the work, requires the use of Lock and Tag out of the main isolator.

REGULATION 20 - STABILITY

Every employer shall ensure that work equipment or any part of work equipment is stabilised by clamping or otherwise where necessary for purposes of health or safety.

There are many types of work equipment that might fall over, collapse or overturn. Examples in the lift industry include scaffolding, portable lamps and ladders. Pit and access ladders should, where ever possible, be fixed, if not they should be used at the correct angle and secured against slipping.

REGULATION 21 - LIGHTING

Every employer shall ensure that suitable and sufficient lighting, which takes account of the operations to be carried out, is provided at any place where a person uses work equipment.

Additional illumination may need to be provided in areas where lighting is insufficient and for such as maintenance or repair work. Such provision may be temporary, by means of hand or portable lights or fixed lighting inside enclosures such as lift shafts.

The deciding factor for lighting must be made by risk assessment. Where access is foreseeable on a fairly regular basis, consideration should always be given to the provision of permanent lighting. This Regulation compliments the requirements for lighting in the Workplace (Health, Safety and Welfare) Regulations 1992.

REGULATION 22 - MAINTENANCE OPERATIONS

Every employer shall take appropriate measures to ensure that work equipment is so constructed or adapted that, so far as is reasonably practicable, maintenance operations which involve risk to health or safety can be carried out while the work equipment is shut down or in other cases:-

maintenance operations can be carried out without exposing the person carrying them out to a risk to his health or safety or;

appropriate measures can be taken for the protection of any person carrying out maintenance operations which involve a risk to his health or safety.

Regulation 5 of PUWER requires that equipment is maintained, Regulation 22 requires that the maintenance work is carried out, as far as possible, in a safe and healthy manner. Ideally there must be no risk associated with a maintenance operation. If the work involves a risk this Regulation requires that the installation should be designed so that work can, so far as is reasonably practicable, be carried out with the equipment stopped. It may also require the stopping of adjoining equipment.

REGULATION 23 - MARKINGS

Every employer shall ensure that work equipment is marked in a clear, visible manner with any marking appropriate for reasons of health and safety.

The requirement is closely linked with Regulation 24 'Warnings'. Markings may use words, letters, numbers or symbols. There are nationally and internationally agreed markings. Any symbols must be clear and unambiguous. Examples include:-

- stop and start controls
- maximum rotation speed of an abrasive wheel
- maximum safe working load to be marked on lifting beams
- marking of electrical switches and within a machine room

Others include marking of live electrical components where they may remain live even though the supply has been isolated.

- Stop and Start controls to be marked
- Identifying multi equipment in machine rooms

REGULATION 24 - WARNINGS

(1) Every employer shall ensure that work equipment incorporates any warnings or warning devices which are appropriate for reasons of health and safety.

(2) Without prejudice to the generality of paragraph (1), warnings given by warning devices on work equipment shall not be appropriate unless they are unambiguous, easily perceived and easily understood.

A warning is normally in the form of a notice or similar, posters may be sufficient during a temporary situation such as maintenance. Warning devices can be audible but in any event must always be easily perceived and understood.

For any clarification on this Information Sheet contact your Safety Advisor or the LEIA Safety and Training Manager.

ESSENTIAL READING

The Provision and Use of Work Equipment Regulations 1998

Safe use of Work Equipment - Provision and Use of Work Equipment Regulations 1998 Approved Code of Practice and guidance L22

EN81-20

FOR SOURCES OF FURTHER INFORMATION

BS EN ISO 14120:2015 for design and construction of machine guards