

Transporting Scaffolding in Construction Hoists (including Transport Platforms)



NASC/CPA Good Practice Guide



FOREWORD



The use of construction hoists for the transportation of scaffolding materials, during the erection or dismantling of a scaffold, provides a safer means of lifting these materials than some traditional methods. However, as hoists used for this purpose may not have all the physical safeguards present in a fully installed hoist, there is scope for unsafe use, which has led to a number of serious accidents, tragically including some fatalities.

HSE acknowledges the work undertaken by the Construction Industry to produce practical guidance to improve safety performance in this important area. It is recognised that the document contains some advice that may go further than the minimum needed to comply with health and safety law.

I thank those involved in its production and commend the guidance to you.

Heather Bryant

HM Chief Inspector of Construction
Chair of the Health and Safety Executive's
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This document remains valid for a period of five years from the date of publication, at which time it will be reviewed. The only exception to this will be in the event of new regulatory requirements which affect the validity of the document. In such a case the guidance will be suspended or withdrawn following the issuing of a joint statement by the Construction Plant-hire Association and the National Access and Scaffolding Confederation, on the basis of advice from the Health and Safety Executive.

1. INTRODUCTION

This good practice guide provides guidance for scaffolders on the planning and safe use of construction hoists, including transport platforms, used for transporting scaffolding materials during the erection and dismantling of scaffolding. Transport platforms and hoists used for this purpose are referred to as a “*temporary scaffolding transportation system*” (TSTS) to differentiate them from hoists used conventionally. Throughout this document the term “TSTS” will include all forms of construction hoist, including transport platforms, used for this purpose.

The document also gives guidance to the hoist supplier on the procedures necessary before handing over the hoist to scaffolders.

Mast climbing work platforms (MCWPs) and Mobile elevating work platforms (MEWPs) are excluded from this good practice guide.

When a transport platform or hoist is delivered to a site and erected adjacent to scaffolding, it is common practice for the scaffolding contractors to use the machine to carry scaffold materials as the scaffolding is extended to the higher levels. Whilst this is regarded as the safest method of lifting these materials it is essential that the use of a TSTS for this purpose is effectively planned and supervised. Section 3.0 of this document deals with planning in detail. If the correct TSTS is not selected, properly equipped for the purpose, a safe system of work put in place, personnel trained, familiarised, assessed as competent and adequately supervised; the operation may well involve unacceptable risks.

Three organisations who have separate responsibilities, but must work together, are

the hoist supplier, the scaffolding contractor and site management. It is the responsibility of the TSTS supplier and the scaffolding contractor to carry out their respective risk assessments and draw up method statements in order to either eliminate risks or reduce them to an acceptable level. The site management, must approve and adopt these method statements.

The type of hoists used as TSTS for transporting scaffolding materials may include transport platforms, goods-only hoists or rack and pinion passenger/goods hoists,.

Scaffolding materials are transported on the platform or in the cage to the required working level. The hoist is specially adapted as a TSTS for this purpose by the TSTS supplier and controlled only by a competent authorised operator employed by the scaffolding contractor.

A hoist installation that is specially adapted as a TSTS may be without some gates and hoistway protection on landings and should be equipped with special racks in the cage/platform. When it is handed over to the scaffolders it must be thoroughly examined to ensure that it is safe for its intended use. i.e the movement of scaffolding components.

Both hoist erectors and scaffolders are trained and competent to work at heights when installing equipment. Scaffolders work in situations where scaffold guard rails and platforms have yet to be installed. They can therefore take on the extra responsibilities of operating hoists for transporting scaffolding materials when gates and hoistway protection have yet to be installed. This however, requires them to undertake extra training in the specific skills of operating the TSTS.

During the time that a hoist is specially adapted as a TSTS for use by scaffolding contractors, it must not be operated by any other person on the site and must not be used for any other purpose.

Once all gates and hoistway protection are in place, the whole hoist installation must be thoroughly examined again before it is handed over to the main contractor for normal use as a construction hoist.

2.0 HAZARDS ASSOCIATED WITH HOISTS USED FOR TRANSPORTING SCAFFOLDING MATERIALS

2.1 General

This section is intended to assist the appointed person (supplier) to undertake the risk assessments for the installation, planning, erection and dismantling of the hoist, where the appointed person (user) has specified that the hoist will be used for the transportation of scaffolding. It is also intended to help the appointed person (scaffolder) undertake the risk assessment for the use of an adapted hoist by the scaffolders.

A specially adapted hoist used for transporting scaffolding materials will be complete in all aspects at its current working height with the possible exceptions of:

- landing gates;
- landing gate interlocking devices;
- landing scaffold threshold interface;
- landing level limit ramps;
- landing level call systems.

The adapted hoist (TSTS) will be equipped with devices for securing and transporting scaffolding materials safely on the platform/cage.

2.2 Persons Travelling on Hoists used as TSTS

2.2.1 Transport Platforms

These machines may be operated in “transport platform” or “goods hoist” mode. If goods hoist mode is selected 3.2.1 applies.

The safe system of work will require the authorised operator to travel on the platform and operate the transport platform using the platform controls. There may be a requirement in such a safe system of work for a limited number of other persons to travel on the transport platform with the authorised operator, e.g. for the handling of scaffolding materials.

NOTE: General guidance on the use of transport platforms is given in the Construction Plant-hire Associations Best Practice Guide on the Installation, Use, Maintenance, Inspection, Examination and Testing of Transport Platforms CHIG 0201.

2.2.2 Goods-only Hoists

Persons are prohibited from travelling on the platform/cage of a goods-only hoist other than the hoist erectors during the erection, dismantling and maintenance of the hoist.

2.2.3 Passenger Hoists

Personnel should only travel in the cage of passenger hoists used as TSTS, never on the roof. Authorised personnel may only travel on the cage roof during erection, maintenance or dismantling of the TSTS.

2.2.4 Materials Transported on Hoists

The use of all three above categories during the erection and dismantling of an adjacent incomplete scaffold shall be limited to the transportation of scaffolding materials only.

2.3 Hazards

There are a number of specific hazards associated with the use of hoists when transporting scaffolding materials. The following table gives guidance for the appointed persons to help them carry out their risk assessments. The table uses the format in the Health and Safety Executive’s publication “Five Steps to Risk Assessment”. The list of hazards and control measures is not exhaustive.

Significant Hazards	People at Risk	Control Measures
Falls from height.	<ul style="list-style-type: none"> Persons on the hoist platform. 	<ul style="list-style-type: none"> The sides of a goods-only platform or transport platform must have side protection to the current product standards or equivalent.
	<ul style="list-style-type: none"> Persons on roof of passenger/goods hoist. 	<ul style="list-style-type: none"> Prohibit persons on cage roof except during erection, dismantling, maintenance or through examination of the TSTS. A person may access the cage roof to load or unload scaffolding material whilst the cage is stationary and isolated at a boarded level. Access/egress only via the additional interlocked trapdoor.
	<ul style="list-style-type: none"> Persons at scaffolding threshold interface with hoist at landing. 	<ul style="list-style-type: none"> Provision of a landing threshold or unloading ramp to bridge any gaps. The unloading ramp shall have edge protection where the gap between the hoist and the scaffold is greater than 150 mm. The unloading ramp must be adequately supported.
	<ul style="list-style-type: none"> Persons at scaffolding threshold interface without hoist at landing. 	<ul style="list-style-type: none"> Temporary edge protection (minimum of scaffolder's safe zone as defined in NASC SG4) shall be installed and in situ at all the scaffolding landing areas.
Falling objects and materials from direct works and/or other works in the area of the hoist when in service.	<ul style="list-style-type: none"> Persons working in the area of the hoist. 	<ul style="list-style-type: none"> Work above the hoist should be stopped. Alternatively, a safe system of work shall be implemented to prevent falling materials from the other works adjacent to the hoist. Establishing an exclusion zone which is appropriate for the materials being handled and potential fall distance.
Shearing hazard between moving hoist parts and fixed objects	<ul style="list-style-type: none"> Persons travelling on roof of the cage of a passenger/goods hoist. 	<ul style="list-style-type: none"> Prohibit persons on cage roof except during erection, dismantling, maintenance or through examination of the TSTS. A person may access the cage roof to load or unload scaffolding material whilst the cage is stationary and isolated at a boarded level. Access/egress only via the additional interlocked trapdoor. Prohibit the carriage of materials on the roof of a p/g hoist.
	<ul style="list-style-type: none"> Persons travelling on the platform of a goods only hoist. 	<ul style="list-style-type: none"> Prohibit persons from travelling on the platform except during erection or dismantling of the TSTS
	<ul style="list-style-type: none"> Persons travelling on the platform of a transport platform when loaded with scaffolding materials. 	<ul style="list-style-type: none"> Prohibit persons apart from the operator travelling on the platform except during erection or dismantling of the TSTS.
	<ul style="list-style-type: none"> Persons at scaffold landing area not in use. 	<ul style="list-style-type: none"> Temporary barriers restricting access to the interface. Minimum offset distances as follows: <ul style="list-style-type: none"> – 0.5 m → $v \leq 0.7$ m/s – 0.85 m → $v < 0.7$ m/s <p>NOTE: Distances from EN12158-1 Figure 6</p>

Significant Hazards	People at Risk	Control Measures
Crushing hazard between hoist cage and limits of travel	<ul style="list-style-type: none"> Persons in the hoistway at ground level. 	<ul style="list-style-type: none"> Base enclosure must be in place.
	<ul style="list-style-type: none"> Persons travelling on the roof of the cage. 	<ul style="list-style-type: none"> Prohibit persons on cage roof except during erection, dismantling, maintenance or through examination of the TSTS. A person may access the cage roof to load or unload scaffolding material whilst the cage is stationary and isolated at a boarded level. Access/egress only via the additional interlocked trapdoor.
Structural failure	<ul style="list-style-type: none"> Persons in or on the platform/cage. Persons working in immediate area of the hoist. 	<ul style="list-style-type: none"> Assessment of magnitude of loads, positioning and security. Loads must not be out of balance. Platform/cage must not be overloaded (de-rating may be required, See 5.2.1). De-rating may be required due to change in load centre of gravity, wind loading and/or load distribution. Pre-use checks. Consideration of an overload protection system
Security of the load within the confines of the cage/platform.	<ul style="list-style-type: none"> Persons in or on the platform/cage. Persons working in immediate area of the hoist. 	<ul style="list-style-type: none"> Correctly secure and evenly distribute the load on the platform/cage. Ensure loads are within confines of cage/platform. Use of securing/racking devices (See 5.2). Methods for securing all components during loading and unloading, individually if necessary.
Security of abnormal loads which may project outside the confines of the platform/cage.	<ul style="list-style-type: none"> Persons in or on the platform/cage. Persons working in immediate area of the hoist. 	<ul style="list-style-type: none"> Secure the load on the platform/cage correctly, using racks and frames suitably designed for this purpose and for use on the intended hoist (See 5.2). Methods for securing all components during loading and unloading, individually if necessary.
Failure of controls during use.	<ul style="list-style-type: none"> Persons on/in the platform/cage. 	<ul style="list-style-type: none"> Establish emergency procedures prior to the use of the hoist.
Inadvertent movement of the TSTS.	<ul style="list-style-type: none"> Persons on/in the platform/cage. Persons on the scaffold. 	<ul style="list-style-type: none"> Ensure controls are isolated by operating emergency stop control during loading/unloading.
Electrical hazards	<ul style="list-style-type: none"> Persons operating or travelling on/in the platform/cage 	<ul style="list-style-type: none"> Awareness of potential hazards identified by the safe system of work
	<ul style="list-style-type: none"> Persons loading or unloading scaffolding materials. 	<ul style="list-style-type: none"> Awareness of potential hazards identified by the safe system of work, e.g. proximity of high voltage cables.

Significant Hazards	People at Risk	Control Measures
Manual handling	<ul style="list-style-type: none"> Persons loading, unloading or handling scaffolding materials. 	<ul style="list-style-type: none"> Safe system of work established for handling each load (See NASC SG6).
<p>Table 1 – Hazards Associated with the Use of Hoists when Transporting Scaffolding Materials</p> <p><i>NOTE: This list of hazards and control measures is not exhaustive</i></p>		

3. PLANNING THE INSTALLATION OF THE TSTS AND ITS OPERATION

Due to the hazards associated with a hoist when it is being used as a TSTS for the transport of scaffolding materials, additional planning requirements are necessary.

3.1 Selection of the TSTS

Regulation 4 of the Provision and Use of Work Equipment Regulations 1998 (PUWER) requires that:

“(1) 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.

(2) In selecting work equipment, every employer shall have regard to the working conditions and to the risks to the health and safety of persons which exist in the premises or undertaking in which that work equipment is to be used and any additional risk posed by the use of that work equipment.”

At the planning stage, it is important that the appointed person (user) or the appointed person (scaffolder) informs the appointed person (supplier) of the intended use and of their requirements to ensure the correct selection of the hoist for use as a TSTS. For example:

- the type, length, weight and quantity of the materials to be lifted;
- the available programme time;
- the available power supply;
- the end user’s requirements;
- tying constraints.

Characteristics of transport platforms goods only hoists and passenger/goods hoists, are given in **Annex B**.

Once these general requirements are established and a suitable hoist has been selected, more site-specific requirements must be considered:

- the suitability of the TSTS to carry the type of materials to be lifted;
 - access/egress to and from the proposed location of the TSTS including scaffolder’s “safe zone“;
- NOTE: Details of the scaffolder’s “Safe Zone” are given in NASC publication SG4 Preventing Falls in Scaffolding*
- overhead hazards;
 - the constraints under which the TSTS will be tied, i.e. to the scaffolding and/or the building structures;
- NOTE: If the TSTS is to be tied to the scaffold, the scaffold must be designed to accept the loads from the TSTS even though the scaffold may not be complete*
- staged installation and dismantling of both the TSTS and the scaffold;
 - familiarisation requirements for the scaffold operatives for the proposed type of TSTS.

The selected TSTS should meet all of these site specific requirements.

3.2 Planning Site Specific Requirements for the Selected TSTS

Following the selection of the TSTS, the appointed person (scaffolder), in consultation with the appointed person (supplier), must consider the following:

- the types of materials being transported with particular regard to the length, position and centres of gravity of the load (See **Annex G**);
- the security of the load, e.g. racks for transporting long loads (See **5.2**);
- the interface between the scaffolding and the hoist;
- any requirements for adaptation of the hoist by the hoist supplier.

Only after consideration of all of the above and any other relevant factors, should a safe system of work be devised by the appointed person (scaffolder) for the safe use of the hoist by the scaffolding operatives. This safe system of work (method statement) must be documented and issued to the site management's appointed person (user).

The appointed person (supplier) and the appointed person (scaffolder) have responsibilities for the safe use of the hoist during the erection of the hoist and the scaffolding. However, ultimate responsibility lies with the site management's appointed person (user) who is also responsible for coordinating operations and ensuring that all persons have been informed of their duties and responsibilities.

4.0 HAZARDS ASSOCIATED WITH HOISTS USED FOR TRANSPORTING SCAFFOLDING MATERIALS

4.1 Handover

Only when the TSTS installation has been thoroughly examined can the appointed person (supplier) handover the TSTS to the appointed person (user) or his nominee, who will normally be the appointed person (scaffolder).

When the TSTS is handed over, the inspection report, all keys and/or controlling devices will be issued to the appointed person (user) or his nominee, and they must then accept the responsibility for the control and operation of the TSTS.

4.2 Familiarisation

The handover of a specific TSTS for use by a scaffolding contractor must involve the scaffolder's TSTS operator(s). Even though the operator(s) must be fully trained and competent, he might not have operated this type of TSTS before and will consequently need to become "familiar" with it. The responsibility for ensuring that each operator is provided with familiarisation rests with the appointed person (scaffolder).

The appointed person (supplier) should provide a demonstrator to familiarise the TSTS operator(s) with the controls, functions for normal use and emergency procedures, together with the daily pre-use checks and weekly inspections for that particular TSTS. This familiarisation should be recorded and copied to both the appointed person (scaffolder) and appointed person (user).

Familiarisation should ensure that the operator(s) have:

- an awareness of the specific hazards associated with the TSTS installation, where the landing protection and interface may be incomplete;
- an understanding of any possible restrictions on loading materials on the TSTS and an ability to estimate, with sufficient accuracy the weight, size and distribution of these loads on the platform/cage;
- familiarity with the safe system of work to be followed when loading and unloading scaffolding materials to/from the cage/platform;
- the ability to lower the platform/cage safely in the event of a power failure, where applicable;

- an awareness of wind speed criteria;
- an awareness of the requirements for the daily pre-use checks and weekly inspections and emergency procedures;
- an awareness that the machine must not be used for any other function/application

4.3 Responsibilities of the Scaffolding Contractor after Handover and Familiarisation

The appointed person (scaffolder) should authorise the TSTS operator(s) after familiarisation. The scaffolding contractor should also ensure that the operator(s) acknowledge that he is authorised to operate the TSTS, preferably in writing.

It is imperative that the appointed person (user) and/or the appointed person (scaffolder) ensures that no other person operates the TSTS and that the TSTS is not used for any other purpose other than the transport of scaffolding materials for which it has been specially adapted.

Before the TSTS is put into use, the appointed person (scaffolder) must ensure that the authorised operator(s):

- is trained and competent to operate the TSTS;
- has undergone familiarisation on the installed TSTS, including the operation of manual descent devices;
- has received specific instruction when the risk assessment and method statement has considered the additional hazards imposed.

5. LOADING, TRANSPORTING AND UNLOADING SCAFFOLDING MATERIALS

5.1 Even Distribution of Loads

In normal circumstances the load will be contained within the confines of the platform/cage and evenly distributed. However, when carrying scaffolding materials the loads cannot always be evenly distributed.

If the load can be evenly distributed, the TSTS can be loaded to its rated load. If the load cannot be evenly distributed, then the allowable load on the platform/cage may be significantly less than the rated load capacity of the TSTS and de-rating should be considered. Any de-rating of the rated load should be determined by the appointed person (supplier).

5.2 Adapting the Hoist as a TSTS

It is essential that the load or partial load of scaffolding material is prevented from falling, slipping, rotating or from entanglement with the mast or other hoistway obstacles.

In order to transport scaffolding materials in an upright position in a TSTS, it may be necessary to adapt the TSTS by having a device to secure the load (See 5.2.1). This scaffold transport securing device must be securely attached to an appropriate point on the TSTS.

During travel, loading and unloading, the scaffolding transport securing device must be capable of preventing any individual piece of the scaffolding material from falling or sliding in an uncontrolled manner (See Annex F). The scaffolding material may need to be secured at two connection points

5.2.1 Design of the Scaffolding Transport Securing Device

Before starting the design of the scaffolding transport securing device the designer should undertake a hazard analysis and risk assessment to identify the hazards associated with the use of the device, the risks to persons and appropriate control measures to eliminate or reduce those risks. They should also provide information on any residual risks.

The design of the device must be fit for purpose and must be carried out by a person who is able to understand loadings on the TSTS platform/cage and the integration with its operation. It should take into consideration the

number, length and weight of the materials being transported. It may result in the de-rating of the rated load of the machine due to point loading on the floor, the raised centre of gravity of the load and the possible eccentricity of the load within the platform/cage area. It may be necessary to reinforce the floor of the cage when using the device.

The weight of the device must also be taken into consideration when de-rating the rated load. A sign must be installed on the device or in the platform area showing any possible restrictions on the length of the scaffolding materials and the de-rated capacity of the TSTS.

The carriage of long and/or broad scaffolding components may place an increased wind load on the TSTS. This may occur at a higher level than normally expected. Consideration should therefore be given to limiting the additional wind area incurred by the scaffold components, or limiting the allowable in-service wind speed. This should be included in the consideration of the de-rating of the TSTS.

The supplier, (usually the hire company,) is responsible for approving the design and the installation of the device on the platform/cage of the TSTS. This should be undertaken in consultation with the hoist manufacturer.

5.2.2 Information for Use

The supplier must ensure that the user is provided with adequate information to enable them to use the adapted hoist safely. As a minimum, the following information should be supplied:

- Rated capacity;
- Maximum in-service wind speed;
- Restrictions on point loads;
- Requirements for securing of materials;
- Inspection requirements.

5.2.3 CE Marking Issues

Adapting a hoist to transport scaffolding materials safely may require an additional conformity assessment to ensure conformity with the Essential Health and Safety Requirements of the Machinery Directive. Advice on this is given in the CPA Technical Information Note TIN 302 *CE Marking of Construction Hoists and Components*.

5.2.4 Use of the Device

The scaffolding contractor is responsible for the correct use of the device. Since the load capacity might have been de-rated, it is important to ensure that overloading does not occur as many hoists do not have overload protection.

Inadvertent overloading can occur in all situations, but it may be a particular issue where scaffolding is being dismantled and excessive materials are loaded into the platform/cage.

5.3 Loading and Unloading

Careful consideration should be given to the loading and unloading of scaffolding materials. The main hazards associated with this are:

- Security of the load to ensure that materials are not dropped in the process of transferring them to and from the TSTS and the ground or structure;
- Ensuring that the materials are inside the plan envelope of the platform/cage to avoid contact with the structure during travel;
- Manual handling issues for the personnel carrying out loading and unloading.

Detailed advice on manual handling issues is given in *Manual Handling in the Scaffolding Industry SG6*, published by the National Access and Scaffolding Confederation.

5.4 Transport Platforms

A safe system of work must be established and in place prior to the commencement of any TSTS operation.

It is necessary for an operator of a transport platform to ride on the platform when travelling with materials and is therefore important to ensure the stability and security of the load during travel. Due to the many different types of transport platforms, which range from small single mast units to larger twin masted units, a safe system of work for each unit is required. Control measures may be different in each case depending on the transport platform's manufacturer, type, size and the materials being moved.

It is essential that the operator has clear access between the operating position and the loading/unloading position, without having to clamber over the material on the platform

The following is a list of issues that need to be considered:

- the transport platform may only be operated by those scaffolding operative(s) who are competent and authorised to operate it;
- methods of communication between the scaffolders at the interface landing levels and the transport platform operator;
- electrical isolation that prevents unintentional movement of the platform whilst loading and unloading;
- the load must be held in place securely, e.g. using purpose built racks for scaffold materials with defined attachment points.
- the loads must always be directly supported on the floor of the platform and no part of the load must be supported by the sides of the platform or the ramp/gates;
- distribution of the load;
- suitability of the transport platform to carry the load, e.g. strength of the floor;
- methods for loading and unloading scaffolding materials between the transport platform and the scaffolding;
- temporary edge protection at the interface landing level;
- safe storage area for the scaffolding materials within the confines of the scaffolding structure or building;
- after final use, the unit must be checked to ensure that it is locked off or isolated.

This list is not exhaustive.

5.5 Goods-only Hoist

A safe system of work must be established and in place prior to the commencement of any TSTS operation. This safe system of work should ensure that access to the goods-only hoist platform, during loading and unloading, is carried out from a safe boarded scaffold lift via the loading/unloading ramp.

It is standard practice for a goods-only hoist to be operated by an authorised operator at ground level. Persons should not travel on the hoist platform at any time.

The following is a list of issues that need to be considered:

- the TSTS must only be operated by those scaffolding operative(s) who are competent and authorised to operate it;
- methods of communication between the scaffolders at the landing interface and the TSTS operator;
- electrical isolation that prevents unintentional movement of the platform whilst loading and unloading;
- the load must be held in place securely, e.g. using purpose built racks for scaffolding materials.

- the loads must always be directly supported on the floor of the platform/cage and no part of the load must be supported by the sides of the platform/cage or the ramp;
- distribution of the load;
- suitability of the hoist to carry the load, e.g. strength of the floor;
- methods for loading and unloading scaffolding materials between the hoist and the scaffolding;
- temporary edge protection at the landing interface;

NOTE: *Guidance on temporary edge protection is given in the NASC document SG4 Preventing falls in scaffolding*

- safe storage area for the scaffolding materials within the confines of the scaffolding structure or building;
- after final use, the unit must be checked to ensure that it is locked off or isolated.

This list is not exhaustive.

5.6 Passenger/Goods Hoist

A safe system of work must be established and in place prior to the commencement of any TSTS operation.

The use of passenger/goods hoists for the transportation of scaffolding materials presents a different series of issues from transport platforms and goods only hoists due to the fully enclosed cage and the consequent difficulty of handling long materials such as scaffold boards and tubes. The design of the hoist also allows the machine to be controlled from the normal operating position inside the cage or using the erection controls on the cage roof. Both of these options have advantages and disadvantages which must be carefully evaluated as part of a risk assessment when producing the site specific safe system of work for using a particular passenger/goods hoist to transport scaffolding materials.

The following are two methods of using a passenger/goods hoist to transport scaffolding materials. They are ranked in order of preference:

1. A fully installed passenger hoist ready for normal use with interlocked landing gates, where long material is loaded and unloaded through A and B doors, with long material sticking up through trapdoor aperture. Other components are carried in cage. The trap door aperture may be fitted with a “top hat” which maintains overhead protection for personnel in the cage. When material is loaded into the trapdoor aperture and secured, an additional interlocked trap door must be provided to allow the operator to climb onto the roof in the event of an emergency. The authorised operator controls the hoist from inside the cage.

Scaffolding materials transported in this way should not exceed 4m in length. A landing with a depth of 1.6m between the face of the building and the outer edge of the scaffold will be required to allow unloading of long materials.

NOTE: *The provision of additional trapdoors should be undertaken in consultation with the hoist manufacturer.*

2. A passenger hoist based TSTS where long materials, not exceeding 5m in length, are loaded through the A door at ground/base level, with material sticking up through the trapdoor aperture. When material is loaded into the trapdoor aperture and secured, an additional interlocked trap door must be provided to allow the operator to climb onto the roof in the event of an emergency. Other components are carried in the cage.

NOTE: *The provision of additional trapdoors should be undertaken in consultation with the hoist manufacturer.*

Long materials are unloaded by a scaffolding operative who, once the cage roof has arrived at a position 2-3m below the boarded level, operates the cage E-stop to isolate the TSTS drive and transfers from inside the cage to the cage roof using the internal ladder and additional trapdoor. The scaffolding operative passes the material to another scaffolding operative positioned on the scaffold at the boarded level.

Once the long material has been unloaded, the scaffolding operative transfers back into the cage via the additional trapdoor and resets the E-stop.

The TSTS cage is then moved up to the boarded level so that other material can be unloaded through the B door. To enable the B door to be opened once the boarded level has been reached a temporary interlock ramp must be installed at the boarded level (See Figure 1).

Once the transfer has been completed the B door is closed and the TSTS driven down to base level. The authorised operator controls the TSTS from inside the cage throughout the operation.

NOTE: *The cage gate interlocks must not be overridden under any circumstances.*

When drawing up the safe system of work, the following list of issues need to be considered:

- methods of communication between the scaffolders at the landing interface and the hoist operator;
- electrical isolation that prevents unintentional movement of the platform whilst loading and unloading, e.g. the provision of an emergency stop control on the cage roof;
- the load must be held in place securely, e.g. using purpose built racks for scaffold materials;
- under no circumstances must loads be supported or carried on handrails, toe boards or the cage roof;
- distribution of the load;
- suitability of the hoist to carry the load, e.g. strength of the floor;
- safe system for controlled isolation and reinstatement of the safety circuit of the trap door when transporting materials that project through the trap door;
- methods for loading and unloading scaffolding materials between the hoist and the scaffolding;
- temporary edge protection at the landing interface;
- safe storage area for the scaffolding materials within the confines of the scaffolding structure or building;
- after final use, the TSTS must be checked to ensure that it is locked off or isolated.

This list is not exhaustive.

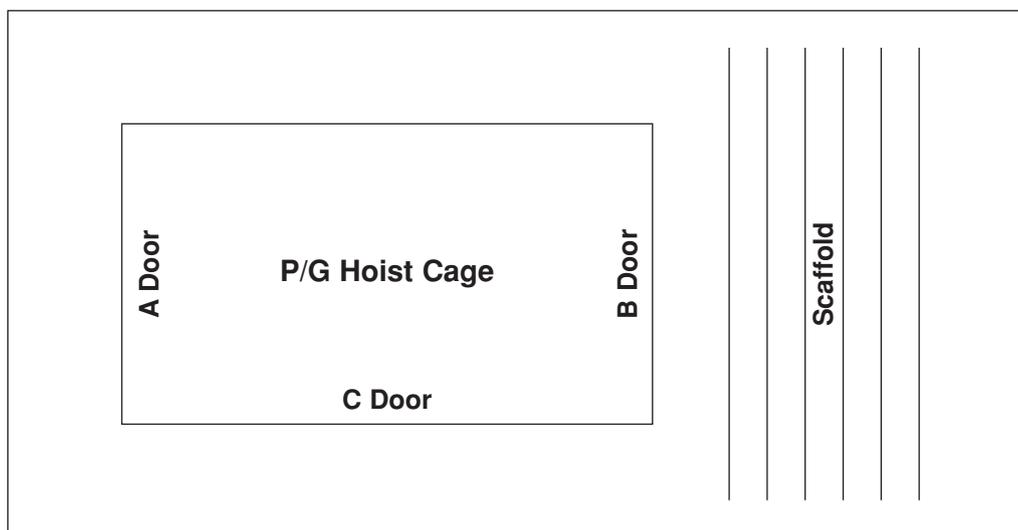


Figure 1 – Position of Doors on a Passenger/Goods Hoist Cage



Figure 2 – Temporary Cage Gate Interlock Ramp for a Passenger Hoist Based TSTS

6. TRAINING OF SCAFFOLDERS IN THE USE OF HOISTS AND TSTSS

The scaffolding contractor's appointed person (scaffolder) is responsible for ensuring that any scaffolding operative who operates a hoist must be adequately trained and competent to operate that type (category) of hoist. In addition the operator will require specific training and familiarisation to load, operate and unload a hoist that has been installed/adapted to specifically transport scaffolding materials as a TSTS (**See 4.0**).

6.1 Standard Operator Hoist Training

The training of personnel should be structured with theory and practical sessions followed by formal assessment and supervised practice on the job to achieve competence.

In-company training and assessment of competence is one of the choices open to management. However, competencies can be assessed by either National Vocational Qualification (N/SVQ) assessments or, in the case of hoist operators, by the Construction Plant Competence Scheme (CPCS) which is managed by the Construction Industry Training Board. These or other nationally recognised schemes should be used whenever possible.

The categories in the CPCS scheme are:

- Rack and pinion goods-only (A20A)
- Rack and pinion passenger/goods (A20B)
- • Rope operated good-only (A20C)

Transport platforms (A20D)

All training should be recorded in writing.

6.2 TSTS and Application Specific Familiarisation

Even if personnel have been trained on a particular type (category) of hoist, care should be taken to ensure that they have been adequately familiarised with the specific model of hoist they are required to operate, how it has been adapted as a TSTS to transport scaffolding materials and how it is to be used within the safe system of work for that application.

The appointed person (scaffolder) is responsible for ensuring that familiarisation is provided to the operator.

Familiarisation should be carried out by a competent and authorised person.

This may be provided by:

- an experienced person employed by the hoist supplier or scaffolding contractor *or*;
- a representative of the machine manufacturer *or*;
- any other competent and authorised person.

The person giving familiarisation should have been assessed by a suitably trained person to ensure that they are competent to do so. They should also have detailed information about the safe system of work to be followed and how the TSTS has been adapted.

All familiarisation should be recorded by both the provider and the employer of the operator.

Familiarisation for the operator of TSTSs should include the following:

- Layout and use of controls;
- Identification of specific areas of risk whilst using specific TSTS;

- Machine specific safe working procedures;
- Machine specific visual inspections of the machine or attachment;
- Machine specific “pre start checks” and basic maintenance requirements as recommended by the manufacturer.

Familiarisation should ensure that the operator(s) have:

- an awareness of the specific hazards associated with the TSTS installation, where the landing protection and interface may be incomplete;
- an understanding of any possible restrictions on loading materials on the TSTS and an ability to estimate, with sufficient accuracy the weight, size and distribution of these loads on the platform/cage;
- familiarity with the safe system of work to be followed when loading and unloading scaffolding materials to/from the cage/platform;
- the ability to lower the platform/cage safely in the event of a power failure, where applicable;
- an awareness of wind speed criteria;
- an awareness of the requirements for the daily pre-use checks and weekly inspections and emergency procedures.

7.0 THOROUGH EXAMINATION OF HOISTS TO BE USED FOR TRANSPORTING SCAFFOLDING MATERIALS

Regulation 9 of the Lifting Operations and Lifting Equipment Regulations 1998 (LOLER) requires that before lifting equipment is used it is thoroughly examined by a competent person to ensure that it is safe to use. This is the responsibility of the persons hiring in and using the hoist, but may well be arranged through the hoist supplier.

It is recommended that the hoist or transport platform installed specifically for the transportation of scaffolding materials is designated as a "temporary scaffolding transportation system" (TSTS) and thoroughly examined as such, taking account of the specific risks associated with the transportation of scaffolding materials. This will include the provision of racks or carriers for securing the material being transported (See **5.2**).

NOTE: A temporary scaffolding transportation system (TSTS) is defined as a transport platform or construction hoist that has been specifically adapted by the hoist supplier for transporting scaffolding materials during scaffolding operations.

A thorough examination of the hoist as a TSTS should be undertaken before the machine is first used for transporting scaffolding and after each subsequent alteration, e.g. where the height of travel is increased.

Annex C gives an example of a scope of thorough examination for a TSTS and used solely for the transportation of scaffolding materials as part of a safe system of work.

LOLER requires that the competent person carrying out a thorough examination of a TSTS makes a report of that thorough examination in writing to the user of the TSTS and to the person from whom the TSTS has been hired. It is essential that:

- The description of the TSTS in the report clearly states that it is a TSTS to be used for transporting scaffolding materials;
- The report is authenticated by the competent person, or on his behalf;
- The report contains the information specified in Schedule 1 to LOLER (See **Annex D**);
- The interval between thorough examinations for use as a TSTS is limited to the duration of the projected period of the current phase of scaffold installation or the occurrence of TSTS alteration or dismantle.

After each phase of utilization of the TSTS has been completed, consideration should be given to the merits of the retention or removal of any modifications carried out on the TSTS for the purpose of adapting it for transporting scaffolding materials.

On completion of the specific use as a TSTS for transporting scaffolding materials and before the machine is handed over for normal use as a hoist or transport platform, the remaining gates and hoistway protection necessary for normal use must be fitted and a new thorough examination carried out. It is the responsibility of the user to organise this, although the thorough examination is normally carried out by the supplier. The report of thorough examination must be issued to the user and, if the hoist is safe to use, it is ready for handover to the user for normal hoist operations.

Detailed advice on the thorough examination of TSTSs, including competent persons, independence and reporting requirements, is given in the *Best Practice Guide on the Maintenance, Inspection and Thorough Examination of Construction Hoists* published by the Construction Plant-hire Association and available as a free download from: <http://www.cpa.uk.net/p/Construction-Hoist-Interest-Group>

8. COMPLETION OF THE HOIST INSTALLATION

After each phase of utilization of the TSTS has been completed, consideration should be given to the merits of the retention or removal of any modifications carried out on the TSTS for the purpose of adapting it for transporting scaffolding materials.

The remaining gates and hoistway protection that are necessary for normal use by the contractors on the site must then be fitted.

Once the installation has been completed, a thorough examination must be carried out before it is handed over for normal use as a hoist or transport platform. It is the responsibility of the appointed person (user) to organise this but the thorough examination is normally carried out by the appointed person (supplier). The report of thorough examination must be issued to the appointed person (user) and, if the hoist is safe to use, then it is ready for handover to the appointed person (user) for normal hoist operations.

Further advice on thorough examination is given in the CPA *Best Practice Guide on the Maintenance, Inspection and Thorough Examination of Construction Hoists*.

On occasions a TSTS may be installed exclusively for scaffolding material transportation. As the machine will be dismantled once this has been completed a thorough examination before taking into normal use will not be required.

ANNEX A – DEFINITIONS

The following definitions apply throughout this document:

A1 *appointed person*

person appointed by the management or the organisation requiring the hoisting operation to be undertaken who is responsible for all aspects of the hoisting operations

A2 *appointed person (supplier)*

person appointed by the hoist supplier who is responsible for planning the installation and method statements for the erection and dismantling of the hoist(s)

A3 *appointed person (user)*

person appointed by the hoist user (See **A30.**) who is responsible for devising safe systems of work and other aspects of the use of the hoist(s) and for ensuring that the in-service inspections and thorough examinations are carried out

A4 *appointed person (scaffolder)*

person appointed by the scaffolding contractor who is responsible for planning the safe operation and the safe system of work for the use of the hoist(s) by the scaffolders

A5 *authorised operator*

a trained and competent person designated to safely load, operate and unload the hoist for the carriage of scaffolding materials and who has received familiarisation on the particular hoist

A6 *cage*

a carrier including the floor, walls and roof, typically on a passenger/goods hoist

A7 *competent person*

a person who is deemed to be competent and has such practical and theoretical knowledge and such experience of the construction hoist and its equipment as is necessary to carry out specific duties and responsibilities

A8 *construction hoist*

a temporary lifting machine serving landing levels on sites of engineering and construction with a platform, cage or other load carrying device, which is guided

NOTE: *Types of construction hoists include passenger/goods hoists, goods-only hoists and transport platforms (See Annex B)*

A9 *demonstrator*

person trained and authorised to demonstrate the controls and functions of the hoist to trained operators

A10 *hoist erector*

a trained and authorised person responsible for the erection, modification and dismantling of hoists

A11 *hoist installation*

all parts of the hoist including the drive mechanisms, safety mechanisms, mast and tie arrangements, access to the landings, and hoistway protection at the landings, including landing gates, landing interface and base enclosure

A12 hoist platform

the load carrying device including the floor, sides and entrance/egress points

A13 hoistway

the total space which is travelled by the hoist platform and its load

A14 hoistway protection

protection around the hoistway which prevents persons adjacent to the hoistway from the hazards of falling or being struck by the moving hoist platform. See BS7212

NOTE: In addition to the landing gate, additional safeguarding will be required to the side(s) and/or the top of the landing gates to prevent contact with the moving hoist platform. This forms part of the hoistway protection.

A15 in-service

a condition when the platform/cage(s) is in any position other than at the lowest landing position of its travel (whether it is laden or unladen), and when the platform/cage(s) is at the lowest landing position and laden

A16 interface

the location at any given level at which materials are passed between the hoist and the scaffold

A17 landing

a level in a building or construction intended for loading and unloading the hoist platform

A18 landing gate

(a) full height gate – close coupled

a gate fully covering the gap between the top and bottom of the landing so that it is not possible to fall into the hoistway or come into contact with moving parts of the hoist or its load

(b) reduced height gate – standoff distance (500mm or 850mm)

a gate between 1100 mm and 1200 mm high, consisting of at least a top rail, an intermediate rail at half height and a toe board

NOTE: Additional protection, such as brick guards, to prevent falling objects may be required following a site specific risk assessment.

A19 mast

a structure that supports and guides the platform/cage

A20 out-of-service

a condition when the platform/cage(s) is at the lowest landing position, unladen and the power supply is isolated

A21 passenger

any person, including the driver, transported by a hoist

A22 rated load

the maximum load the hoist cage/platform has been designed to carry in normal operation

A23 scaffold

a temporary structure which provides access to a building, or which is used to support materials, plant or equipment, or on or from which persons may work

A24 scaffolder's "Safe Zone"

an area of scaffold which is provided with, as a minimum:

- a fully boarded and correctly supported platform without gaps where someone could fall, and,
- a single main guardrail (950mm above the platform) where there is a risk of a fall

A25 scaffolding operative (scaffolder)

a trained and competent operative responsible for the safe erection, alteration and dismantling of the type of scaffolding system in use on site

A26 scaffolding transport securing device

a device to secure scaffolding materials during vertical transportation to ensure that they are prevented from falling, slipping, rotating or from entanglement with the mast or other hoistway obstacles.

A27 supplier

the company or organisation that supplies the hoist to the user

A28 temporary scaffolding transportation system

a construction hoist (See **A8**.) that has been specifically adapted by the hoist supplier for transporting scaffolding materials during scaffolding operations

A29 thorough examination

a thorough examination, carried out by a competent person to ensure that the equipment is safe to use

A30 user

the body that procures the hoist and is responsible for its use

ANNEX B – HOIST CHARACTERISTICS

Transport platforms:

- have a rack and pinion drive mechanism
- are tied to an adjacent structure
- can be erected to lifting heights of up to 200m
- maybe dual-purpose machines:
 - *goods only mode*
 - are operated from outside the open platform
 - can travel at up to 24m per minute,
 - *passenger/goods mode*
 - are operated from inside the platform
 - are restricted to a speed of 12m per minute
 - have a roof over the platform.
- are available with payloads from 300 kg up to 4000 kg



Goods only hoists:

- generally have a rack and pinion drive mechanism
- are tied to an adjacent structure
- can be erected to lifting heights of up to 200m
- generally travel at up to 40m per minute
- are operated from outside the open platform
- are available in a wide range of platform cage sizes, from 1.4m wide x 0.8 m long, to 1.5 m wide x 6.0 m long
- are available with payloads from 200 kg up to 4000 kg.



Passenger/goods hoists:

- have a rack and pinion drive mechanism
- are tied to an adjacent structure
- can be erected to lifting heights of up to 250m
- can travel at up to 100m per minute
- are operated from inside the fully enclosed cage
- are available in a wide range of cage sizes, up to 2.0m wide x 6.0m long
- are available with payloads of up to 3200 kg.



ANNEX C – EXAMPLE OF A SCOPE OF THOROUGH EXAMINATION

Scope of Thorough Examination of a Temporary Scaffolding Transportation System (TSTS) to be Used for Transporting Scaffolding Materials									
Machine Owner					Site				
Date		Temporary Scaffolding Transportation System			Serial No.		Hour Clock		O/S No.
KEY: A – in good order B – requires early attention C – requires immediate action D – Not applicable									
ENCLOSURE					STRUCTURE				
1. Side-panels					46. Mast sections				
2. Cable basket(s) & trailing cable(s)					47. Mast bolts and nuts				
3. Electrical panel					48. Mast racks and bolts				
4. Ultimate limit ramps					49. Rack lubrication				
5. Isolators					50. Cable guides standard				
6. Gate/door					51. Cable guide device & trolley				
7. Foundation fixing					52. Landing beams				
8. Buffer springs					53. Pipe supports				
9.					54. Wall ties and fixings				
PLATFORM / CAGE					55. Vertical pipes				
10. Gate, door entrance					56. Limit cams top				
11. Gate, door exit					57. Limit cams bottom				
12. Side panels, roof and floor					58. Cable anchorages				
13. Ladder and fixing					59. Erection crane and accessories				
14. Limit switches for gates/doors					60.				
15. Limit switch for trap door					HOISTWAY PROTECTION				
16. Ultimate limit switch					on completed landings				
17. Up limit switch					61. Landing gates door				
18. Down limit switch					62. Mechanical interlocks				
19. Control switch/buttons					63. Gate cam & switch assembly				
20. Electrical equipment					64. Hoistway protection				
21. Counterweight, rope anchorage					65.				
22. Safety notices/signs					COUNTER-WEIGHTS				
23. SWL taking account of any derating					66. Counterweight assembly				
24. Lighting					67. Rope anchorages				
25. Gate counterweight and ropes					68. Cathead sheaves				
26. Gate mechanical interlocks					69. Guide rollers				
27.					70. Buffer springs				
MACHINERY					71. Support ropes				
28. Guide roller, hook assemblies					72.				
29. Guide roller adjustment					SPECIAL EQUIPMENT				
30. Guide roller wear					73. Emergency stop control				
31. Safety device unit					74. Alarm system				
32. Safety device resetting tool					75. Stop next landing				
33. Drive motors					76. Load sensing (where applicable)				
34. Brakes					77. Scaffolding Transport Securing Device				
35. Brake adjustment					78. Emergency lowering				
36. Gearboxes					79. No undue noises				
37. Gearbox oil levels					80. Guards replaced & secure				
38. Drive pinions					81.				
39. Drive pinion wear					TESTS and Records				
40. Drive pinion adjustment					81. Load control test				
41. Safety pinion					82. Load test				
42. Safety pinion wear					83. Drop test				
43. Safety pinion adjustments					84. Written safe system of work in place for use as a				
44. Centrifugal weights					Temporary Scaffolding Transport System				
45.					85.				
Comments									
Name of Competent Person					Signature			Employer	
Date of thorough examination					Date of next thorough examination			Thorough examination report reference	

ANNEX D – INFORMATION TO BE CONTAINED IN A REPORT OF A THOROUGH EXAMINATION

The following is an extract from the Lifting Operations and Lifting Equipment Regulations. Schedule 1 of Regulation 10 is quoted here in full. It details information to be contained in a report of a thorough examination.

1. The name and address of the employer for whom the thorough examination was made.
2. The address of the premises at which the thorough examination was made.
3. Particulars sufficient to identify the equipment including where known its date of manufacture.
4. The date of the last thorough examination.
5. The safe working load of the lifting equipment or (where its safe working load depends on the configuration of the lifting equipment) its safe working load for the last configuration in which it was thoroughly examined.
6. In relation to the first thorough examination of lifting equipment after installation or after assembly at a new site or in a new location:
 - (a) that it is the first thorough examination after installation or after assembly at a new site or in a new location;
 - (b) (if such be the case) that it has been installed correctly and is safe to operate.
7. In relation to a thorough examination of lifting equipment other than a thorough examination to which paragraph 6 relates –
 - (a) whether it is a thorough examination:
 - (i) within an interval of 6 months;
 - (ii) within an interval of 12 months;
 - (iii) in accordance with an examination scheme;
 - (iv) after the occurrence of exceptional circumstances;
 - (b) (if such be the case) that the lifting equipment is safe to operate.
8. In relation to every thorough examination of lifting equipment:
 - (a) identification of any part found to have a defect which is or could become a danger to persons, and a description of the defect;
 - (b) particulars of any repair, renewal or alteration required to remedy a defect found to be a danger to persons;
 - (c) in the case of a defect which is not yet but could become a danger to persons –
 - (i) the time by which it could become such a danger;
 - (ii) particulars of any repair, renewal or alteration required to remedy it;
 - (d) the latest date by which the next thorough examination must be carried out;
 - (e) Where the thorough examination included testing, particulars of any test;
 - (f) The date of the thorough examination.
9. The name, address and qualifications of the person making the report; that he is self-employed or, if employed, the name and address of his employer.
10. The name and address of a person signing or authenticating the report on behalf of its author.
11. The date of the report.

ANNEX E – ILLUSTRATIONS OF BAD LOADING PRACTICES



Unsecured scaffold tube jammed in mast.



Close-up of damage caused by unsecured tube.



Never load materials on handrails. Handrails are not designed to take high loads and may collapse causing the materials to fall.



Never allow materials to project outside the confines of the cage/platform. The overhanging materials may catch on a projection into the hoistway and fall onto people below.

ANNEX F – ILLUSTRATIONS OF SCAFFOLDING TRANSPORT SECURING DEVICES AND CORRECT STACKING OF SCAFFOLDING MATERIALS



Scaffold Tubes Secured at Floor Level and by a Rack on the Wall



Scaffold Boards Held Securely to Prevent Movement



Another Example of Scaffold Tubes Held Securely Top and Bottom



A Tube Rack on the Platform of a Good Only Hoist

ANNEX G – WEIGHTS OF COMMON SCAFFOLDING COMPONENTS AND PERSONS

The following weights and measures of scaffolding components and persons will assist authorised hoist operators with their calculation of the weight of loads when transporting these materials on the platform/cage of a construction hoist. The scaffold component weights are approximate and may vary from manufacturer to manufacturer.

NOTE: Hoist platforms and cages are designed to carry distributed loads. Scaffolding materials may impose a point load and the need for de-rating of the rated capacity should be considered (See 5.1)

Weight of Quantities of Scaffolding Materials	
Material	Weight
Type 3 Scaffold Tube – 48.3 mm diameter x 3.2 mm wall thickness	3.56 kg/m
Type 4 Scaffold Tube – 48.3 mm diameter x 4 mm wall thickness	4.37 kg/m
Steel couplings & fittings	1.00 kg to 2.25 kg
Scaffold Boards – 225 mm wide x 38 mm thick	6 kg/m or 25 kg/m ²
Scaffold Boards – 225 mm wide x 50 mm thick	8 kg/m or 33 kg/m ²
Scaffold Boards – 225 mm wide x 63 mm thick	10 kg/m or 41 kg/m ²

Weight of Quantities of Scaffolding Materials				
Weight	Length of steel 3 mm wall tube (metres)	Length of steel 4 mm wall tube (metres)	Approx. number of steel fittings (average 1.8 kg each)	Number of boards (38 mm x 225 mm x 3.9 m long)
200kg	56	46	111	9
300kg	84	69	167	13
500kg	140	114	278	21
1000kg	281	228	560	43
2000kg	562	457	1120	86
3000kg	843	685	1680	128
4000kg	1124	915	2240	171

NOTE: The weight of scaffold boards is based on an average density. Wet boards may weigh significantly more and consequently the number of boards that can be carried without overloading the TSTC will be reduced

Allowance for Persons	
Number of Persons	Total Weight
1	120kg
2	220kg
3	320kg
4	420kg
5	520kg
6	620kg
7	720kg
8	820kg

Legislation

Health and Safety at Work etc. Act 1974. London: The Stationery Office.

The Lifting Operations and Lifting Equipment Regulations 1998 (LOLER).

Provision and Use of Work Equipment Regulations 1998 (PUWER).

L113 *Safe use of lifting equipment*, HSE Books.

L22 *Safe use of work equipment*, HSE Books.

The Management of Health and Safety at Work Regulations 1999 as amended (MHSWR).

Work at Height Regulations 2005 (WAHR).

The Supply of Machinery (Safety) Regulations 2008 (SM(S)R).

The Construction (Design and Management) Regulations 2007 (CDM).

Standards

BS EN 12158-1:2000 + A1:2010, *Builders hoists for goods. Hoists with accessible platforms*

BS EN 12159:2012, *Builders hoists for goods and materials with vertically guided cages*

BS EN ISO 13857:2008, *Safety of machinery – Safety distances to prevent hazard zones being reached by upper and lower limbs*

Other Publications

HSE Leaflet INDG218 – Guide to Risk Assessment;

HSE Leaflet INDG163 – Five Steps to Risk Assessment.

Best Practice Guide on Work at Height on Construction Hoists, Construction Plant-hire Association.

Best Practice Guide on Safeguarding Requirements for Landing Gates of Goods-only Construction Hoists CHIG 0401, Construction Plant-hire Association.

Best Practice Guide on the Maintenance, Inspection and Thorough Examination of Construction Hoists, Construction Plant-hire Association.

Best Practice Guide on the Installation, Use, Maintenance, Inspection, Examination and Testing of Transport Platforms CHIG 0201, Construction Plant-hire Association.

National Access and Scaffolding Confederation.(NASC) Guidance Documents:

TG20 *Guide to Good Practice for Scaffolding with Tubes and Fittings*

SG4 *Preventing falls in scaffolding*

SG6 *Manual Handling in the Scaffolding Industry*

SG34 *Guidance on Protection of the public*

Useful Websites

Construction Plant-hire Association

www.cpa.uk.net

Construction Skills

www.cskills.org

Health and Safety Executive

www.hse.gov.uk

National Access and Scaffolding Confederation (NASC)

www.nasc.org.uk

Safety Assessment Federation

www.safed.co.uk

Strategic Forum for Construction

www.strategicforum.org.uk

UK Contractors Group

www.ukcg.org.uk

ANNEX I – WORKING GROUP MEMBERSHIP

Chairman:

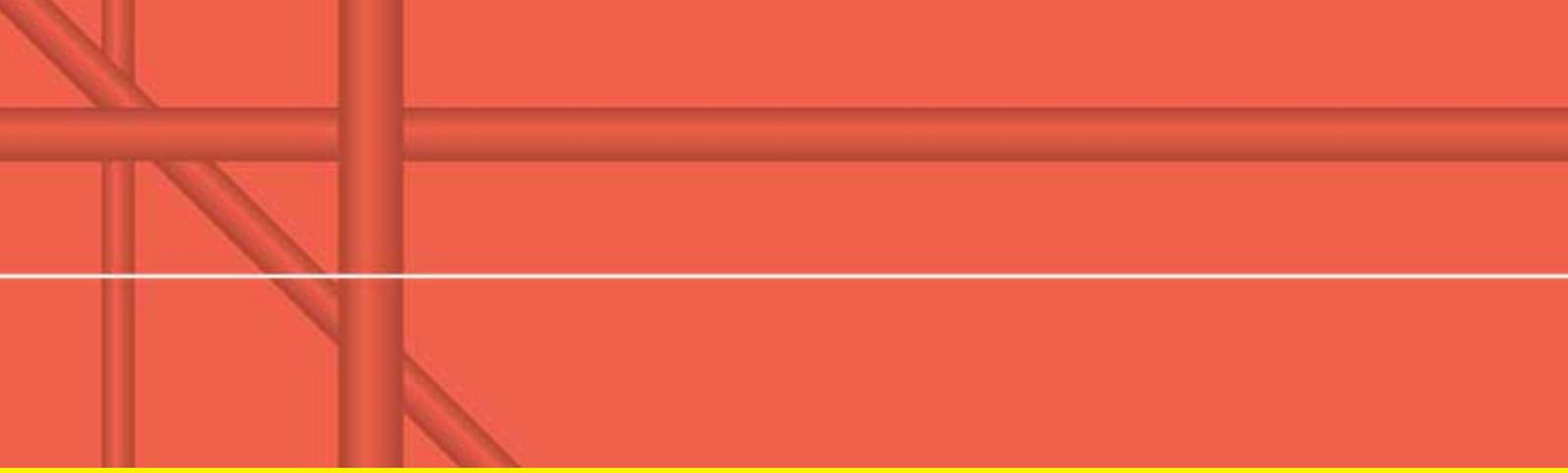
G Gedling Hoist-It Ltd

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G Beentjes Hoist-it Ltd
N Bland GB Access
A Bolton Alimak Hek
P Booth Benchmark Scaffolding
L Foster Southern Hoist Ltd
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D Roberts Skanska
I Simpson HSE
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H Steele Construction Plant-hire Association
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K Ward Scaffold Erection Services Ltd
C Wood Construction Plant-hire Association

Secretary & Editor:

T P Watson Construction Plant-hire Association



Whilst every effort has been made to provide reliable and accurate information, we would welcome any corrections to information provided by the Writer which may not be entirely accurate, therefore and for this reason, the NASC or indeed the Writer, cannot accept responsibility for any misinformation posted.

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