**Checklist - planning the safe set-up and operation of personnel and materials hoists**

A personnel or materials hoist is generally used on construction sites to hoist personnel, goods and/or materials between the ground and elevated floors of a multi-level structure. A hoist system comprises a car, mast tower, mast ties, base/landing systems and a drive unit.

Operating hoists can present a risk of injury to people from the following:

* Hoist collapse. This can occur due to the failure of the mast structure or if the hoist is not adequately secured to the supporting structure. A collapse may be influenced by a number of factors, including overloading or incorrect installation of the mast structure or supporting ties.
* Contact or collision with other plant and structures. This can occur when sufficient clearances are not maintained between where the hoist car will travel and other plant and structures, such as cranes, EWPs, concrete pumping booms, buildings and overhead powerlines.
* Contact with moving parts. This can occur where any part of a person’s body is able to access moving parts of a hoist system, including at the base and at all landing areas.
* Falling objects. This can occur from hoist components or any part of a load falling during erecting, jumping and dismantling activities, when entering or leaving the hoist car from a landing, or during raising or lowering.
* Falls from height. This can occur during activities associated with erecting and dismantling a hoist or from an unsecured landing area.

**Why is planning important?**

Planning is the first step in ensuring that work is done safely. Planning for hoist operations should start as early as possible and involve consultation with everyone engaged in the work. Good planning involves:

* selecting the right hoist
* erecting, jumping and dismantling the hoist
* planning, scheduling and coordinating hoist operations
* operating the hoist safely, including shut down.

Effective planning will help identify ways to protect people who are:

* erecting, jumping and dismantling hoists
* directly involved in hoist operations, such as the operator
* performing other work activities at the workplace
* in an area adjacent to a hoist, including public areas.

**How to use this checklist**

This checklist can be used to assist with the set up and operation of personnel and materials hoists at construction workplaces.

The assessment can be led by a principal contractor (PC), Person Conducting a Business or Undertaking (PCBU), hoist operator, safety advisor or health and safety representative and should be done in consultation, coordination and cooperation with everyone involved.

For example, a representative from the principal contractor might assemble a group of relevant people from the site to discuss each item and coordinate the actions required for any **‘no’** responses.

The *Work Health and Safety Act 2011* requires a PCBU to consult, so far as is reasonably practicable, with workers who are likely to be directly affected by a health and safety matter and with other duty-holders at the same workplace. Records of completed checklists can be kept to monitor and review items at a later date.

|  |
| --- |
| **Part one – site details** |
| **Date of assessment:** |  |
| **Assessment completed by:** |  |
| **Name of PC or PCBU:** |  |
| **Site location:** |  |
| **Current number of floors serviced:** |  |
| **Name of plant owner:** |  |
| **Plant item/rego number:** |  |
| **Make, model and year of manufacture:** |  |
| **Section** | **Item** | **Response and comments** |
| **Part two – selecting the right plant** |
| Determining hoist requirements | 1. Is the type of hoist selected suitable for the work that needs to be performed? Consider:
* the type, weight and dimensions of loads to be hoisted (e.g. people, materials)
* the height of the structure to be reached
* the ability of the structure to support the hoist (e.g. loading capacity, floor heights, space for ties)
* the frequency and duration that the hoist will be used
* proximity of other plant and structures
* workplace conditions (e.g. ground conditions, site access, public areas, power supply).
 | □ Yes □ NoComments: |
| Registration | 1. Is the design of the hoist registered with WHSQ?

Note: Hoists with a platform movement exceeding 2.4 metres designed to lift people must be design registered. | □ Yes □ NoComments: |
| Inspections and maintenance | 1. Has the operator carried out a documented pre-operational inspection on the hoist prior to starting work? This should cover, but not be limited to:
* all relevant items indicated in the operations manual
* operating and emergency controls
* brakes
* safety switches and devices
* mechanical and electrical interlocks functioning correctly
* a visual inspection of the car and mast structure
* guarding/screening at landing areas
* conditions of supporting ground
* cables and wiring.
 | □ Yes □ NoComments: |
| 1. If the hoist’s log book reveals any outstanding faults or safety issues, has the hoist been assessed and appropriate action carried out and recorded by a competent person prior to being put back in to service?
 | □ Yes □ No □ N/A Comments: |
| 1. Is an inspection report available as evidence that routine inspections (i.e. three-monthly) and annual inspections have been carried out?
 | □ Yes □ No □ N/AComments: |
| 1. If the hoist is ten years or older, is the major inspection certificate available?
 | □ Yes □ No □ N/AComments: |
| Hoist manuals and markings | 1. Is the hoist operator manual written in English, use metric units and readily available to the operator?
 | □ Yes □ NoComments: |
| 1. Does the hoist and its components have all required markings? This includes
* make, model and serial number of hoist
* safe working load (SWL) prominently displayed inside the car
* operator controls inside the car clearly marked
* emergency stops prominent (e.g. coloured red)
* overspeed safety device marked with maximum speed and retest date.
 | □ Yes □ NoComments: |
| **Part three - planning, scheduling and coordinating the work** |
| Licencing and training | 1. Do the workers involved hold the required high-risk work licence to perform the work?
	* Rigger(s) erecting, jumping and dismantling the hoist.
	* Hoist operator.
 | □ Yes □ NoComments: |
| 1. Has the hoist operator received documented familiarisation training on the make and model of hoist they are currently operating?
 | □ Yes □ NoComments: |
| 1. Did the induction training provided to workers (e.g. operator, riggers, workers in the vicinity of the hoist) specifically cover what to do in the event of an emergency involving the hoist?

This should include information about:* + people with specific emergency roles
	+ how to use warning systems and what to do when they sound
	+ how to lower the hoist car safely in the event of loss of power
	+ rescue procedures
	+ effective communication between all workers near the device to evacuate safely
	+ how to use firefighting and rescue equipment and where to find it.
 | □ Yes □ NoComments: |
| Planning the work | 1. Has a Safe Work Method Statement (SWMS) been prepared for the high-risk construction work associated with erecting, maintaining and dismantling the hoist, that:
* describes the high-risk construction work to be undertaken
* sets out the steps required to perform the work
* identifies hazards
* describes the control measures to be used?
 | □ Yes □ NoComments: |
| 1. Does the SWMS follow the hierarchy of controls to prioritise higher-level control measures and not rely on administrative controls only?
 | □ Yes □ NoComments: |
| 1. Have workers been consulted in the development of the SWMS, by:
* providing input in to the content of the SWMS
* demonstrating that they understand the content of the SWMS.
 | □ Yes □ NoComments: |
| 1. Is there a system in place for monitoring compliance with the SWMS?
 | □ Yes □ NoComments: |
| **Part four - plant siting and setup** |
| Proximity to plant, structures and public areas | 1. Is the hoist positioned so that the risk of injury from collision with other plant or structures is minimised? This should consider:
* overhead electrical lines and other services
* nearby structures
* cranes, EWPs or other potential obstructions (e.g. concrete placement booms).
 | □ Yes □ NoComments: |
| 1. If using an unenclosed materials hoist, is it positioned so that hoisting loads over public access areas (e.g. footpaths, roads, railways, waterways, buildings) is avoided where possible?
 | □ Yes □ No □ N/AComments: |
| Exclusion zones | 1. Have appropriate exclusion zones been established around the hoist to prevent:
* the hoist nearing vicinity of overhead electrical lines
* people working around the base of the hoist that don’t need to be there
* other plant and vehicle traffic from entering the area around the base of the hoist
* people being hit by falling objects during erecting, maintenance and dismantling activities.
 | □ Yes □ NoComments: |
| 1. Have all relevant workers been informed and understand where exclusion zones are established?
 | □ Yes □ NoComments: |
| Erecting and dismantling hoist | 1. Is there a system in place to ensure that during erecting, jumping and dismantling the hoist, the risk of it collapsing is minimised? This should include:
	* instructions for erecting, jumping and dismantling activities
	* activities supervised by a competent person
	* components assembled in the correct sequence
* the correct equipment and tools
* mast sections that are the correct model or a model of greater strength
	+ the correct bolts when connecting mast sections
	+ correctly torqued bolts
	+ scheduling activities to take place outside of normal work hours
	+ maintaining appropriate exclusion zones.
 | □ Yes □ NoComments: |
| 1. Have ties been secured to the supporting structure at set intervals in accordance with the hoist manufacturer’s and designer’s instructions?
 | □ Yes □ NoComments: |
| 1. Are control measures in place to minimise the risk of workers falling from height during the erecting, jumping and dismantling of the hoist? Control measures might include:
* edge protection systems
* travel restraint systems
* fall-arrest harness systems.
 | □ Yes □ NoComments: |
| Commissioning | 1. Is a commissioning report available that confirms that a competent person has tested, inspected and ensured the hoist is in full working order prior to it being put in to active service?
 | □ Yes □ NoComments: |
| **Part five - operating the plant safely** |
| Managing the risk of falling from heights | 1. Is there a braking system and manual lowering mechanism for the hoist in the event of an emergency (e.g. loss of power supply?
 | □ Yes □ NoComments: |
| 1. Is the risk of people falling adequately controlled at each landing? This includes:
* gates interlocked through mechanical and electrical means
* mesh/screening adequately secured.
 | □ Yes □ NoComments: |
| 1. Does the car roof perimeter handrail provide adequate fall protection and is it in good condition?
 | □ Yes □ NoComments: |
| Managing risk of contact with moving parts | 1. Is mesh or screening in place around the hoist car, at landing areas and at the base of the hoist? This includes:
* mesh at gates to prevent any item coming within 800mm of moving parts
* base enclosure no closer than 75mm to any moving part
* protection at landings, minimum of 2.3m high.
 | □ Yes □ NoComments: |
| Managing risk of falling objects | 1. Is the risk of falling objects adequately controlled at each landing? This includes:
* clearance between landing and hoist platform less than 150mm
* mesh or screening that meets floor adjacent to landing area.
 | □ Yes □ NoComments: |
| Wind conditions | 1. Have wind conditions been considered as to how they may affect the hoist’s stability including:
* wind speed as measured at top of mast tower
* maximum wind speed rating of hoist installation (e.g. mast structure, ties) specified by manufacturer or designer
* effect of wind gusts
* other information provided by the manufacturer or designer
* siting of hoist away from prevailing wind direction
* experience and judgement of operator.
 | □ Yes □ NoComments: |
| Communication | 1. Has a reliable method of communication between the hoist operator and all landing areas been established? This includes the use of:
* radio communication between the car and landings at each level and should involve regular equipment checks and procedures for loss of signal
* other methods in case of emergency such as bells, buzzers, whistles or hand signals.
 | □ Yes □ NoComments: |
| Safety devices | 1. Is the hoist fitted with safety devices or indicators in working order? This includes:
* upper and lower limit switches
* overload detection device
* fire extinguisher.
 | □ Yes □ NoComments: |
| Electrical issues | 1. Is the hoist power supplied directly from the main switchboard and not from a sub-board?
 | □ Yes □ NoComments: |
| 1. Is electrical equipment and cabling contained and protected against mechanical damage?
 | □ Yes □ NoComments: |
| Leaving the hoist unattended | 1. Before leaving the hoist unattended, has it been secured to prevent unauthorised use?

This requires:* leaving the car at the designated level
* isolating and locking out the controls
* locking the hoist landing gate.
 | □ Yes □ NoComments: |

**What to do next**

If you answered **‘no’** to any of the items during the assessment, further action should be taken. This should start with a discussion with the relevant people on site to gather more information and decide on a course of action. Keeping a record of the completed assessment will help to monitor and review items at a later date.

More information on the safe operation of hoists can be found in [*AS 2550.7—1996: Cranes, hoists and winches —safe use—Builders’ hoists and associated equipment*](http://infostore.saiglobal.com/store/Details.aspx?ProductID=276445).