

# High risk work licensing for lifts and escalators

This fact sheet has been developed in consultation with industry groups, consultants, unions and worker representatives. It clarifies high risk work licence (HRWL) requirements in the lift and escalator industry in Queensland to improve safety for workers.

## Lifts (elevators)

Previously, to work on a lift a worker was trained and then qualified as a *'lift mechanic.'* Currently, different specialised crews complete separate phases of the work on lifts. Lift (elevator) work can be placed into two categories:

1. Installation of a new unit and repair.
2. Modernisation of an existing unit.

## Installations

The majority of installations use single shaft machine-room-less lifts (MRL's). The lift is typically built from the ground up, so scaffolding is generally not required. The methods used to install the main components of the lift within the lift shaft determine the HRWL requirements.

The five major components and the relevant licences required are listed below (assuming manufacturers' recommendations are followed for handling of plant).

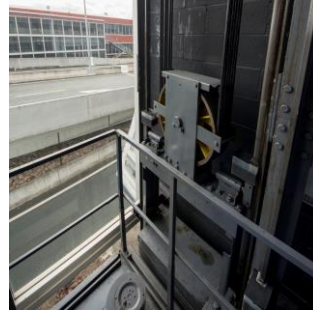
Description	HRWL
<b>Lift motor</b> placement uses lifting gear and connects loads. The motor is hoisted in to position from the centre to the side of the lift well.	This is rigging work and meets the requirements of a <a href="#">Basic Rigging</a> HRWL.
<b>Guide rails</b> placement and installation tend to be associated with using lifting gear and connecting loads.	As load estimation and assessment of slinging techniques is part of this task, a <a href="#">Dogger</a> (DG) HRWL is required.
<b>Ropes</b> are installed with lifting gear and are temporarily suspended in the lift well.	Selecting lifting equipment and using judgement to sling loads require a <a href="#">DG</a> HRWL.
<b>Lift car and counterweight</b> are installed using lifting gear.	Load estimation and slinging techniques are involved, so a <a href="#">DG</a> HRWL is required.
<b>False cars</b> are installed and used to hoist personnel and/or materials in the lift shaft during the installation process.	If a false car is installed in such a way that it can be classed as a cantilever or tower hoist or configured with several hoists to operate, the operator must have a <a href="#">Personnel and materials Hoist</a> (HP) HRWL.



Lift motor



Guide rails



Ropes



Lift car

## Modernisations and repairs

Repairs can include motor, rope and sheave replacement. Modernisation can include replacing these parts with newer models as well as replacing the entire lift car. The HRWL required for these activities are:

- if work requires scaffold to access areas, and is built above four meters high, the person conducting the scaffold work must be either a [Basic Scaffolder](#) (if using modular scaffold) or an [Intermediate Scaffolder](#) (if using tube and couple scaffold)
- if work requires the use of a suspended scaffold to allow safe access, then it must be erected by an [Advanced Rigger](#) or [Advanced Scaffolder](#). The definition of suspended scaffold includes an engineered purpose designed work platform (e.g. false car) supported by a temporary hoisting system. This is outlined in Schedule 3 of the Work Health and Safety Regulation 2011 (WHS Regulation), which states the installation of a hung scaffold must be conducted by either an advanced rigger or an advanced scaffolder.

## Escalators

Escalators and moving walks are installed in both new and existing buildings. Depending on their size, escalators may be installed as a single unit or in sections. Due to their size, moving walks are generally installed in sections (moving walks are included as escalators).

### Installation in new buildings

When installed in new buildings, escalators are often installed before placement of the roof and may be lifted into position by a single crane or multiple cranes depending on the size of the escalator and crane/s used.

If multiple cranes are used to lift and position the escalator, then a person holding an [Intermediate Rigger](#) (RI) HRWL will be required to direct the crane operators during the lift.



Image courtesy of Kone

### Installation in existing buildings

Escalators installed in existing buildings have unique challenges and are assessed on a case-by-case basis.

A variety of methods and lifting gear may be used to lift, manoeuvre and position an escalator during installation, which can include:

- single or multiple cranes
- single or multiple powered winches, including the use of powered winches attached to moveable A-frames and girder trolleys
- single or multiple manually operated winches (such as tiffors), including the use of manually operated winches attached to moveable A-frames and girder trolleys
- multiple crane/winch combinations



Image courtesy of Kone

- hoists and hoisting equipment (such as chain blocks and lever chain blocks)
- dolleys and machinery skates (also called load skates)
- static lines.

Any time a load is lifted and/or moved using multiple cranes, winches or hoists (powered or manually operated) or a combination of these, the person in control of the lift is required to hold a [RI](#) HRWL.

Moving an escalator into position using a single winch or lever action winch and skates, and installing a static line require a [Basic Rigger](#) (RB) HRWL.

In some instances, scaffolding is erected around an escalator installation to allow the technician to gain access to the escalator. People performing scaffolding work are required to hold the relevant HRWL for the type of scaffolding work they are performing.

### **Plant operation**

In rare instances, multiple forklift trucks may be required to lift or move an escalator. This is a hazardous operation, particularly when handling a heavy or cumbersome load. Additional safety precautions and greater attention to planning and supervision is required.

Using multiple forklift trucks to lift and/or move a load should only be undertaken in exceptional circumstances (i.e. when it is not practical to use other methods) and under the supervision of a competent person holding an RI HRWL. Further guidance on lifting and/or moving a load with multiple forklift trucks is in Clause 3.13 of *AS 2359.2 – Powered Industrial Trucks: Operations*.

Anyone operating plant which requires the operator to hold a relevant HRWL (such as, a slewing mobile crane, a non-slewing mobile crane or a forklift truck), must hold the relevant class of HRWL for the plant they are operating. In instances where multiple items of plant are required to lift or move a load, it is recommended that only experienced workers undertake these lifting operations.

### **Modernisation, maintenance and repair**

During modernisation, maintenance and repair work on escalators, much of the lifting work may not require the use of mechanical load shifting devices and can be performed by hand, for example dismantling of steps and chains. However, the escalator technician may be required to replace the escalator motor, drive sprockets or drive shaft. The specifics of the task will dictate what type of lifting gear is required to perform the work.

Generally, these tasks are accomplished with the use of single and/or multiple winches, which may be attached to moveable A-frames and girder trolleys. The HRWL requirements to perform these tasks remains the same as the requirements listed in the installation section above.

## **Relevant legislation**

### [Work Health and Safety Regulation 2011:](#)

- Schedule 3 High Risk Work Licences and classes of high risk work
- Schedule 19 Definitions.

## Definitions

Dogging (DG)	Dogging work
Basic Rigging (RB)	Rigging work involving any of the following: <ul style="list-style-type: none"><li>• Structural steel erection</li><li>• Hoists</li><li>• Precast concrete members of a structure</li><li>• Safety nets and static lines</li><li>• Mast climbing work platforms</li><li>• Perimeter safety screens and shutters</li><li>• Cantilevered crane loading platforms.</li></ul>
Intermediate Rigging (RI)	Rigging work involving any of the following: <ul style="list-style-type: none"><li>• Rigging work in the class basic rigging</li><li>• Hoists with jibs and self-climbing hoists</li><li>• Cranes, conveyors, dredges and excavators</li><li>• Tilt slabs</li><li>• Demolition of structures or plant</li><li>• Dual lifts.</li></ul>
Advanced Rigging (RA)	Rigging work in the class Intermediate rigging: <ul style="list-style-type: none"><li>• Gin poles and shear legs</li><li>• Flying foxes and cable ways</li><li>• Guyed derricks and structures</li><li>• Suspended scaffolds and fabricated hung scaffolds.</li></ul>
Basic Scaffolding	Scaffolding work involving any of the following: <ul style="list-style-type: none"><li>• Modular or prefabricated scaffolds</li><li>• Cantilevered materials hoists with a maximum working load of 500kg</li><li>• Ropes</li><li>• Gin wheels</li><li>• Safety nets and static lines</li><li>• Bracket scaffolds (tank and formwork).</li></ul>
Intermediate Scaffolding	Scaffolding work involving any of the following: <ul style="list-style-type: none"><li>• Cantilevered crane loading platforms</li><li>• Cantilevered scaffolds</li><li>• Spur scaffolds</li><li>• Barrow ramps and sloping platforms</li><li>• Scaffolding associated with perimeter safety screens and shutters</li><li>• Mast climbing work platforms</li><li>• Tube and coupler scaffolds (including tube and coupler covered ways and gantries).</li></ul>
Advanced Scaffolding	Scaffolding work involving any of the following: <ul style="list-style-type: none"><li>• Cantilevered hoists</li><li>• Hung scaffolds, including scaffolds hung from tubes, wire ropes or chains</li><li>• Suspended scaffolds.</li></ul>

## Schedule 19 Dictionary (WHS Regulation)

Dogging work means	<ul style="list-style-type: none"><li>(a) the application of slinging techniques, including the selection and inspection of lifting gear, to safely sling a load or</li><li>(b) the directing of a plant operator in the movement of a load when the load is out of the operator's view.</li></ul>
Personnel and materials hoist means a hoist	<ul style="list-style-type: none"><li>(a) that is a cantilever hoist, a tower hoist or several winches configured to operate as a hoist and</li><li>(b) that is intended to carry goods, materials or people.</li></ul>
Rigging work means	<ul style="list-style-type: none"><li>(a) the use of mechanical load-shifting equipment and associated gear to move, place or secure a load using plant, equipment or members of a structure to ensure the stability of those members or</li><li>(b) the setting up or dismantling of cranes or hoists.</li></ul>
Slinging technique means	the exercising of judgement in relation to the suitability and condition of lifting gear and the method of slinging, by consideration of the nature of the load, its mass and its centre of gravity.
Suspended scaffold means	a scaffold incorporating a suspended platform that is capable of being raised or lowered when in use.
Lift means	Plant that is, or is intended to be, permanently installed in or attached to a structure, in which people, goods or materials may be raised or lowered within a car or cage, or on a platform and the movement of which is restricted by a guide or guides, and includes: <ul style="list-style-type: none"><li>(a) a chairlift, escalator, moving walkway and stairway lift and</li><li>(b) any supporting structure, machinery, equipment, gear, lift well, enclosures and entrances.</li></ul>
Scaffolding work means	Erecting, altering or dismantling a temporary structure that is or has been erected to support a platform and from which a person or object could fall more than four meters from the platform or the structure.



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