

Working at Heights

Preventing falls from height is a priority for Absolute Painting Solutions, we expect our subcontractors and employees actively manage working at height so that people are not harmed. Below are systems Absolute Painting Solutions uses and Systems that our workers should be aware of.

Factors contributing to injuries sustained from working at height include:

- › Lack of or inadequate planning and hazard assessment
- › Inadequate supervision
- › Insufficient training for the task being carried out
- › Incorrect protection or equipment choices
- › Incorrect use or set-up of equipment including personal protective equipment
- › Unwillingness to change the way a task is carried out when a safer alternative is identified
- › Suitable equipment being unavailable.

The Health and Safety at Work act 2015 sets out the PCBU (Person Conducting a Business Undertaking) must take all practicable steps to ensure the safety of workers when they are exposed to a fall or where the hazard of a fall exists.



Safety comes in a can, I can, You can, We can be safe.



Risk and Hazard Assessment

Where the potential for falling exists, workers shall consider the following simple hierarchy of controls:

1. **Elimination.** Can the job can be done without exposing persons to the risk / hazard. This can often be achieved at the design, construction planning and tendering stages. - Could structures be built at ground level and lifted into position on completion? Could any noise be stopped while you in the area
2. **Substitute.** substitute or replace the risk / hazard with a less hazardous work practice e.g.. Could long-handled tools be used from ground level? Use Scaffolding with Safety rail rather than a ladder.
3. **Isolation.** If elimination is not practicable then steps should be taken to isolate people from the hazard. This can be achieved using safe working platforms, guardrail systems, edge protection, guards around moving parts of machinery, work platforms, using scaffold or could a total restraint system be used to prevent a fall occurring?
4. **Minimise.** If elimination Substitute or isolation are not practicable then steps should be taken to Minimise the likelihood of any harm resulting. This means considering the use of work positioning systems or travel restraint systems, safety harnesses, industrial rope access systems and soft landing systems. Could nets or air bags be used to minimise the impact of a fall? Are using the right PPE (Personal Protective Equipment), safty glasses, Ear muffs, Viz Vest and safety shoes

If after **minimising** the Risk, the Risk score is still High or moderate, work **CANNOT TAKE PLACE!**

Using a Risk / Hazard Assessment sheet (attached at the rear of this booklet) is great tool. What is the Likelihood of incident occurring with no Safety measures in place? From a scale of 1 to 4. What are the Consequences if an incident occurred with no Safety measures in place? From a scale of 1 to 4. Then use the Risk score at the bottom of the Risk Assessment sheet to see if the Task has a High. Moderate or Low risk

A Risk / hazard assessment shall be carried out for all work at height. It is essential that the **risks and hazards be identified** before the work starts and that the necessary equipment, appropriate precautions and systems of work are provided and implemented.



Short duration work at height shall be treated the same way as any their activity at height. Appropriate fall prevention controls shall be put in place, regardless of the time duration of the task. Short duration work means work that lasts minutes rather than hours. It may not be reasonably practicable to provide full edge protection for short duration work but it still needs to be considered during the assessment of hazards and should not be discounted.



HEIGHT SAFETY



Too many falls from height are caused by a failure to plan and organise work properly. Start by planning a safe approach (Work Plan).

Planning safe working at height means:

Identifying the hazards.

Identify any hazards of working at height where someone could fall. Four ways of identifying hazards are:

1. **Physical inspections**—walk around the workplace using a checklist to identify and manage hazards
2. **Task analysis**—identify the hazards involved in each task of the job.
3. **Process analysis**—identify hazards at each stage of the production or service delivery process.
4. **Analysis of accident investigation**—identify hazards and causal factors from investigations involving similar types of work.

Documenting your approach.

A good record of the planning process and communications with clients, contractors, workers, and other site visitors should be maintained

Monitoring your approach

The approach should be constantly assessed to ensure it is effective and fit for purpose. This could mean carrying out regular inspections of the control measures, discussing the control measures at tool box talks and site meetings with contractors, and actively supervising the work.



HEIGHT SAFETY**The best method of hazard control is eliminating the potential of a fall.**

Consideration of elimination controls should occur early in the project development stage in order to allow necessary design, planning and coordination. Eliminating the potential of a fall can be achieved through:

Safer design

Examples of safer design include:

1. By the use of low-maintenance building materials
2. By locating air conditioning and/or similar plant at ground level
3. By installing walkways with handrails
4. Installing permanent guardrails or other forms of edge protection, for example parapet walls.
5. Use a longer lasting Product (2 pot paint)

Using alternative construction methods

Examples of alternative construction methods include:

1. Prefabricating wall frames horizontally before standing them up
2. Using precast tilt-up concrete construction instead of concrete walls constructed in situ
3. Prefabricating structures on the ground or before installation and lifting them into position
4. Pre-painting fixtures/roofs before installation
5. Installing and maintaining antennae and satellite dishes or air conditioning in areas other than at height.

Use of alternate tools and equipment

Examples of tools and equipment include using long-handled tools, such as paint rollers or window brushes with extendable handles, thereby eliminating the need to work from a ladder.



CONTROLS FOR HEIGHT HAZARDS

Non mechanical Control

Scaffolding

Scaffolding is a common way to provide a safe work platform. There are a wide variety of scaffolding systems available. All scaffolds should comply with the Scaffolding, Access & Rigging New Zealand (SARNZ) Best Practice Guidelines for Scaffolding in New Zealand or equivalent guidelines or a higher standard. All scaffolds should be erected, altered and dismantled by persons who have been trained and have suitable experience with the type of scaffolding being used. All scaffolds from which a person or object could fall more than **five metres**, as well as all suspended scaffolds, should be erected, altered and dismantled by or under the direct supervision of a person with an appropriate Certificate of Competency. This work must be notified to the Ministry of Business, Innovation and Employment as particularly hazardous work. A scaffold register should be kept on site.



Absolute Painting Solutions has its own scaffolding that can be erected by the painters. The Scaffolding supplied is of commercial grade and is no taller than five meters. Where work is performed using mobile scaffolds, employers should ensure that workers understand that the scaffold should:

1. Be erected by a competent person and used in accordance to the manufacturer's specifications
2. Remain level and plumb at all times
3. Be kept at least one metre from open floor edges and openings unless the edge is protected to prevent the scaffold tipping
4. Never be accessed until all the castors are locked to prevent movement
5. Never be moved while anyone is on it
6. Be clear from overhead power lines.



HEIGHT SAFETY

Edge protection (Used by Absolute Painting Solutions)



Edge protection is used to prevent persons, objects or materials from falling. Edge protection may be temporary, for example during the course of construction. It may also be used in completed buildings, for example a permanent balustrade preventing a fall from a mezzanine floor or used when painting a roof in conjunction with a harness and rope system.

Safety Nets.

Safety nets are the preferred system for protecting construction workers against falling through a roof while they are laying roof sheets. If securely fixed, it also provides fall prevention for maintenance and repair workers. Safety nets should be used in conjunction with appropriate edge protection such as guardrails. If isolation is not practicable then a safety harness system should be used.

Nets



Trestle scaffolds

Trestle scaffolds are only suitable for low-level work because of the difficulty of incorporating a guardrail system. An example of low-level work is when the worker may need to paint a low ceiling. Guardrail systems are available for trestles and should be used wherever possible. Absolute Painting Solution does have Trestles, however alternative controls that give more protection should be used.



Step platforms



A step platform provides a safer alternative to a stepladder, especially where the task involves working at height for extended periods or with restricted vision (such as welding or other hot work). The step platform is more stable and provides a much larger work surface than the stepladder.



HEIGHT SAFETY**Constructed temporary work platforms**

Design, fabrication and erection of temporary work platforms from building materials must meet sound design and construction principles as prescribed by existing construction standards such as SARNZ Best Practice Guidelines for Scaffolding in New Zealand. Where construction workers build their own work platforms they shall ensure that:

No alternative forms of work platform are readily available

They are constructed from suitable materials

Competent and skilled tradesmen construct or supervise the construction of the work platform

The proposed structure can safely support the tradesmen, materials and plant necessary to complete the work

Guardrails, toe boards and mid rails are in place

The proposed structure can stand up to the construction activities and processes necessary to complete the work safely.

Temporary work platforms are not used by Absolute Painting Solutions. If a situation arises where you are required to use one. You must inform your direct foreman and a task analysis sheet completed.



HEIGHT SAFETY

Mechanical access Control

Mechanical access plant includes all mechanically operated plant that can be used to gain access for the purpose of working at height. Commonly used mechanical access plant include:

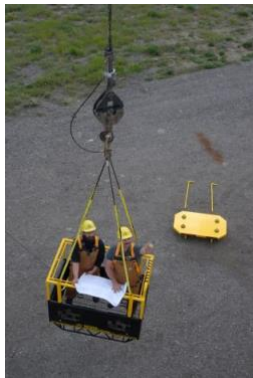
1 Mobile Elevating Work Platforms

Common forms of MEWPs include cherry pickers, scissor lifts, hoists and travel towers. There are some key safety issues that should be considered before using a MEWP.



2 Forklift platforms

Work platforms may be constructed to be raised or lowered using a forklift and these should be used in accordance with the Approved Code of Practice for Training Operators and Instructors of Powered Industrial Lift Trucks (Forklifts) – Ministry of Business, Innovation and Employment. Non-integrated work platforms should be designed for the specific model of forklift truck.



3 Crane lift platforms

Where no other practical and suitable method is available, a working platform may be suspended from a crane and the worker must be attached to the hook. The crane operator and the person using the platform should discuss the operation and maintain direct communication by line of sight or by telecommunication at all times.

4 Knuckle boom

A knuckle boom has a second articulated joint partway along the arm to allow for extra flexibility and reach for the work platform. The arm can be folded away when not in use, and to vary the reach in use. Knuckle booms should be used and maintained in accordance with the Approved Code of Practice for Power-Operated



HEIGHT SAFETY

Harness systems

A harness system enables a person to be positioned and safely supported at a work location for the duration of the task being undertaken at height. Harness systems are used for gaining access to, and working at, a workface where there is a risk of a fall. The most common harness systems include:

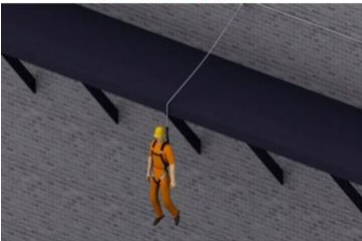
Fall Restraint System



1. Total restraint systems.

The preferred harness system for working at height is the total restraint system (sometimes referred to as a travel restraint system). This system protects a user from approaching an unprotected edge, thereby preventing a free fall from occurring.

Fall Arrest System



2. Fall arrest systems.

A fall arrest system is designed to support and hold a person in the event of a fall. It is not a work positioning system as they are not designed to support a person while working.



3. Work positioning systems

Work positioning systems enable a person to work supported in a harness under tension in a way that a fall is prevented. Generally, the arrangement allows for the worker to maintain a stable position and to work hands-free while completing a task. The harness arrangement should not allow a fall of more than 600 mm. This is generally achieved through the use of short lanyards of 300 mm.



RISK / HAZARD ASSESSMENT SHEET



HEIGHT SAFETY

What is the “**LIKELIHOOD**” of an incident occurring?

LEVEL	DESCRIPTION	LIKELIHOOD
1	VERY LIKELY	DEATH, PERMANENT DISABILITY
2	LIKELY	SERIOUS INJURY OR ILLNESS
3	UNLIKELY	CASUALTY TREATMENT
4	VERY UNLIKELY	FIRST AID INJURY

What would be the “**CONSEQUENCES**” of an incident occurring?

RISK CALCULATOR

LEVEL	DESCRIPTION	LIKELIHOOD
1	EXTREME	COULD HAPPEN OFTEN
2	MAJOR	COULD HAPPEN OCCASIONALLY
3	MODERATE	COULD HAPPEN BUT RARELY
4	MINOR	COULD BUT PROBABLY NEVER

LIKELIHOOD OF AN INCIDENT	CONSEQUENCE IF INCIDENT OCCURS			
	1. Extreme	2. Major	3. Moderate	4. Minor
1. Very likely	1	2	3	4
2. Likely	2	3	4	5
3. Unlikely	3	4	5	6
4. Very unlikely	4	5	6	7

RISK SCORE

RISK SCORE	RATING	ACTION
1 - 3	HIGH	Extreme caution must be taken. Eliminate, Isolate and Minimise. Re-access Often
4 - 5	MODERATE	
6 - 7	LOW	Risk may not require any action



HEIGHT SAFETY**Risk /Hazard examples****Risks:-**

Example 1. You are painting a roof; there are controls in the form of a secure temporary anchor point. You also have a harness and rope with a lockout attached. However there is only roof protection on half the roof.

Q. What is the risk of falling of the roof? **A. Very Likely.**

Q. What is the Likelihood of injury? **A. Extreme.**

Q. What is the Risk of falling with only roof protection on one side ? **A. Very Likely**

Q. What is likelihood of injury? **A. Extreme.**

Q. What is the Risk of falling with only roof protection on one side, and using the harness attached to the anchor point **A. Unlikely**

Q. What is the likelihood of injury. **A. Moderate?**

Example 2. You are painting a soffit; there are controls in the form of an extension ladder, 8 step ladder and a portable scaffold tower with safety rail. The 8-step ladder is not long enough and would require you to stand on the very top step. The extension ladder will reach and ideal for the job as long as you used the 3-point method. You also have a harness in the van.

Q. What is the risk of falling of the stepladder? **A. Very Likely.**

Q. What is the Likelihood of injury? **A. Extreme.**

Q. What is the Risk of falling of the ladder using the 3 point method? **A. Unlikely.**

Q. What is likelihood of injury? **A. Extreme.**

Q. What is the Risk of falling of the scaffold? **A. Unlikely**

Q. What is the likelihood of injury? **A. Extreme**

Q. What is the Risk of falling of the scaffold using a harness? **A. Unlikely**

Q. What is the likelihood of injury? **A. Moderate**



HEIGHT SAFETY**Hazards:**

Example 1. You are painting a roof; there are controls in the form of a secure temporary anchor point. You also have a harness and rope with a lockout attached. There is no roof protection on the roof. You notice that the rope is frayed and has paint all over it and the harness has passed its Expired date.

Q. What is the risk of falling of the roof? **A. Very Likely.**

Q. What is the Likelihood of injury? **A. Extreme.**

Q. What is the Risk of falling with using the expired harness attached to the anchor point via the frayed rope? **A. Very Likely**

Q. What is likelihood of injury? **A. Extreme.**

Q. What is the Risk of falling with a new harness and a new rope attached to the anchor point? **A. Unlikely**

Q. What is the likelihood of injury. **A. Moderate?**

Example 2. You are painting a soffit; there are controls in the form of an extension ladder and a portable scaffold tower with NO safety rail. The extension ladder will reach and ideal for the job as long as you used the 3-point method, but one of the rungs is missing. You also have a harness in the van.

Q. What is the Risk of falling of the damaged ladder using the 3 point method? **A. Very likely.**

Q. What is likelihood of injury? **A. Extreme.**

Q. What is the Risk of falling of the scaffold with No safety barrier? **A. Very Likely.**

Q. What is the likelihood of injury? **A. Extreme**

Q. What is the Risk of falling of a replacement ladder using the 3 point method? **A. Unlikely.**

Q. What is likelihood of injury? **A. Extreme.**

Q. What is the Risk of falling of the scaffold with a new replacement safety barrier? **A. Unlikely**

Q. What is the likelihood of injury? **A. Extreme**

Q. What is the Risk of falling of the scaffold with a new replacement safety barrier and using the harness? **A. Unlikely**

Q. What is the likelihood of injury? **A. Moderate**



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2022



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