

General Safety Requirements for Working at Heights **(Scaffolds & Ladders)**

Maximum fall incidents take place due to improper use of scaffolds and ladders especially in construction industry when people are working at heights.

There are plenty of means used in construction sites for performing the work at height that include rigid stationary scaffolds, mobile tower scaffolds, mobile platforms, man-lifts and ladders etc.

In order to ensure that all works that require **working on heights**, takes place in safe manner, the following should be considered:

Tower and Sstationary Scaffolds

Scaffolds must be erected by trained and certified scaffolders. Stand or erect towers on firm base or level ground. Brakes on castors are always being used. Secure the tower to the structure if necessary by ties or ropes Tower inspections to be done regularly by trained and certified scaffolders, the tags must be displayed for the status of all scaffolds.

1. Must be erected on stable and level ground
2. Sole plates and base plates must be used
3. Guard rails, middle rails and toe boards will be place on the inside of the standard
4. Toe boards must be in place
5. Plank overhang to be kept as small as possible +/-300mm
6. Adequate access ladders to be provided, access ladders must extend one meter above the work deck
7. Mobile scaffolding must be fitted with heavy duty casters and a locking device
8. All wooden scaffold boards will be unpainted
9. All boards will be free from splits, decay and damage

Working at Ladders

Most of accidents of falling occur due to use of ladders, therefore care must be taken to use the ladders and should be allowed only if it is must and no other method fits that area.

1. Louisville wooden step ladders type are allowed to be used
2. Unsound ladders should never be used
3. Lean sideways from ladders is forbidden
4. Ties to be fitted all the time with right length
5. Regular inspections will be done by safety officer

Ladders can be used by considering the following:

1. The work can be done by using one hand

2. The work area can be reached without stretching so no risk of dis-balance
3. The ladder can be fixed to prevent slipping on firm base
4. A good handhold is available for the person.

Rescue Plan for fall from working at heights

The purpose of this work instruction is to establish guidelines for responding to a fall at heights. This work instruction should ensure that the victim's health risks are minimized during a fall. The rescue plan shall minimize the amount of at risk behaviour of the rescuer during the rescue attempt, and that the rescue is conducted in a safe and professional manner. The requirements of this work instruction are to be observed by all personnel involved in working at heights where a fall hazard exists.

Definitions:

Rescue Plan – A strategy or procedure, planned in advance, to retrieve safely a person who has fallen from an elevated work surface and is suspended in a full body harness, to include self-rescue or mechanically aided rescue

Self-Rescue – An act or instance of an employee using his fall protection equipped to perform a self-rescue

Mechanically aided Rescue – A strategy or procedure, planned in advance, to retrieve safely a person who has fallen from an elevated work surface using mechanical means.

Responsibility of Employee

- Trained and familiar with the content of work at height rescue plan.
- Able to understand and evaluate the risks associated with working at heights
- Trained and competent in the use of fall protection equipment prior to working at heights.
- Able to report unsafe conditions and/or behaviours to the Person-In-Charge.

Responsibility of Rescuer

- Get a specific training for work at height rescue.
- Shall be re-trained when the nature of the work, the workplace, or the methods of control or rescue change to an extent that prior training is not adequate.
- Rescuers shall master how to inspect, assemble and use the fall protection and rescue equipment used in locations where they work.
- Authorized rescuer update training shall be conducted accordingly to stay current with the fall protection and rescue requirements.
- Authorized rescuers shall be evaluated by HSE department to ensure competency of the duties assigned.

Procedure for rescuing the fall victim

- The rescue plan shall include consideration of the following rescue types and circumstances:
- Self-Rescue: If the person working at heights makes proper choices in the equipment to be used and implements that equipment properly, most of fallen workers will perform a **Self-Rescue** which should include:
 - Worker will climb back up to the level from which he fell (a few inches to 2 or 3 feet).
 - Worker will return to the floor or ground and be reviewed for possible medical attention.
 - Remove all necessary components of his fall arrest system from service and document (bag and tag) the components involved in the fall with name, date and activity at time of fall and give it to their manager.

Assisted Self Rescue with mechanically aided hauling / rope system

If self-rescue is not possible then an **Assisted Self Rescue** will be needed. The following guidelines should be used during a mechanically aided rescue.

- The mechanical device (a pulley) will be secured to an anchor that is strength enough.
- The haul line may be swung over or lowered to the worker, who will grab the lifeline hook and secure it to the appropriate body support D-ring. A positive connection to the D-ring must be verified by one of the rescue team members.
- The rescue team will raise or lower the fallen employee to the appropriate work platform or ground and take care of the rescued worker medically as needed.
- Remove all necessary components of his fall arrest system from service and document (bag and tag) the components involved in the fall with name, date and activity at time of fall and give them to manager.

Assisted Rescue with mechanically aided hauling / rope system

If the workers injuries prevent them from attaching themselves to the rescue system, both self-rescue and assisted self-rescue are not options, an fully **Assisted Rescue** is necessary.

- The mechanical device will be secured to an anchor that is strength enough.
- A rescue team member must attach the mechanical device haul line to the fallen worker's fall arrest system. This can be performed by accessing the worker and attaching directly to the workers harness.

- The rescue team will raise or lower the fallen employee to the appropriate work platform or ground and take care of the rescued worker medically as needed.
- Remove all necessary components of his fall arrest system from service and document (bag and tag) the components involved in the fall with name, date and activity at time of fall and give them to manager.

Assisted Rescue with mechanically aided aerial lift

Another means to perform an **Assisted Rescue** is with a lifting equipment as the following guidelines:

- Get ready of machinery crane, man-basket and related personnel.
- Rescuer ensure the path of lifted man-basket is clear of obstruction.
- Lifting rescuer in man-basket up to the location of falling personnel and position him in man-basket.
- Disconnect the rescued worker from the impacted fall arrest equipment.
- Lower the worker to the ground and take care of the rescued worker medically as needed.
- Remove all necessary components of his fall arrest system from service and document (bag and tag) with name, date and activity at time of fall and give them to the manager.