



HEALTH, SAFETY & ENVIRONMENTAL PROGRAM

Section: Fall Protection

PREPARED BY: HEALTH AND SAFETY TEAM

DATE OF ORIGIN: 02/02/2023

REVISION # 1

OF PAGES: 4

FALL PROTECTION

PURPOSE

The purpose of this section is to establish the minimum requirements and guidelines to be used to protect employees from falls when they are working at elevated positions or are exposed to potential fall hazards.

SCOPE

This procedure is applicable to all employees, and any subcontractor(s) employed by AE.

This procedure provides the minimum requirements to be implemented by all employees and subcontractors. Where a Client's requirements are less stringent than those in this procedure, the requirements of this procedure shall still be implemented. Where a Client's requirements are more stringent than those in this procedure, the Client requirements shall be adhered to.

Background

Working from heights is a high-risk activity. Risks can be associated with the use of ladders, personnel lifts, or working on elevated walkways. Proactive protective measures must be taken prior to working at elevated heights.

To achieve 100% fall protection, either primary or secondary fall protection systems are used. In some instances, a combination of both may be required.

Legislation

According to Ontario Regulation 851, Industrial Establishments:

Fall Hazards: Section 85

Where a worker is exposed to the hazard of falling and the surface to which he or she might fall is more than three metres below the position where he or she is situated,

- a) the worker shall wear a serviceable safety belt or harness and lifeline that is adequately secured to a fixed support and so arranged that the worker cannot fall freely for a vertical distance of more than 1.5 metres; and
b) the fall arrest system described in clause (a) shall,
(i) have sufficient capacity to absorb twice the energy and twice the load that under the circumstances of its use may be transmitted to it, and
(ii) be equipped with a shock absorber or other devices to limit the maximum arresting force to 8.0 kilonewtons to the worker.

Fall Hazards: Section 86

Where a worker is exposed to the hazard of falling into liquid that is of sufficient depth for a life jacket to be effective as protection from the risk of drowning, there shall be an alarm system and rescue equipment, appropriate in the circumstances, to ensure the worker's rescue from the liquid and,

- (a) the worker shall wear a life jacket; or
(b) the employer shall develop written measures and procedures to prevent the worker from drowning and shall implement them.



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Guardrails: Section 13-15

- 13.
- (1) Subject to subsection (2), there shall be a guardrail,
- (a) around the perimeter of an uncovered opening in a floor, roof or other surface to which A worker has access;
 - (b) at an open side of,
 - i. a raised floor, mezzanine, balcony, gallery, landing, platform, walkway, stile, ramp or other surface, or
 - ii. a vat, bin or tank, the top of which is less than 107 centimetres above the surrounding floor, ground, platform or other surface; and
 - (c) around a machine, electrical installation, place or thing that is likely to endanger the safety of any worker.
- (2) Subsection (1) does not apply to,
- (a) a loading dock;
 - (b) a roof to which access is required only for maintenance purposes; and
 - (c) a pit used for,
 - i. work on an assembly line, or
 - ii. maintenance of vehicles or similar equipment.
- 14.
- (1) A guardrail shall,
- (a) have a top rail located not less than 91 and not more than 107 centimetres above the surface to be guarded;
 - (b) have a mid rail;
 - (c) if tools or other objects may fall on a worker, have a toe-board that extends from the surface to be guarded to a height of at least 125 millimetres; and
 - (d) be free of splinters and protruding nails.
- (2) A guardrail shall be constructed to meet the structural requirements for guards as set out in the Building Code.
15. A cover on an opening in a floor, roof or other surface shall be,
- (a) secured in place; and
 - (b) constructed to meet the structural requirements for loads due to the use of floors and roofs as set out in the Building Code.
18. (1) Subject to subsection (2), an access ladder fixed in position shall,
- (a) be vertical;
 - (b) have rest platforms at not more than nine metre intervals;
 - (c) be offset at each rest platform;
 - (d) where the ladder extends over five metres, above grade, floor or landing, have a safety cage commencing not more than 2.2 metres above grade, floor or landing and continuing at least ninety centimetres above the top landing with openings to permit access by a worker to rest platforms or to the top landing;
 - (e) have side rails that extend ninety centimetres above the landing; and
 - (f) have rungs which are at least fifteen centimetres from the wall and spaced at regular intervals.
- (2) Subsection (1) does not apply to an access ladder on a tower, water tank, chimney or similar structure which has a safety device which will provide protection should a worker using the ladder fall.



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19. Where frequent access is required to equipment elevated above or located below floor level, permanent platforms shall be provided with access by a fixed,

- (a) stair; or
- (b) access ladder.

20. Barriers, warning signs or other safeguards for the protection of all workers in an area shall be used where vehicle or pedestrian traffic may endanger the safety of any worker.

73. A portable ladder shall,

- (a) be free from broken or loose members or other faults;
- (b) have non-slip feet;
- (c) be placed on a firm footing;
- (d) where it,
 - i. exceeds six metres in length and is not securely fastened, or
 - ii. is likely to be endangered by traffic,
 - iii. be held in place by one or more workers while being used; and
- (e) when not securely fastened, be inclined so that the horizontal distance from the top support to the foot of the ladder is not less than 1/4 and not more than 1/3 of the length of the ladder.

Primary Fall Prevention Systems

Primary fall prevention systems are the preferred choice for performing work in elevated areas. These systems provide walking and working surfaces that are equipped with standard guardrail systems on all open sides. In most cases, primary fall prevention systems are sufficient fall prevention methods and do not require the use of additional (secondary) fall protection systems such as a harness / lanyard system.

Guardrails

Guardrails are an integral part of most primary fall prevention systems and must be constructed according to the specifications noted in the Regulations.

Secondary Fall Protection Systems

Secondary fall protection systems should only be used after all efforts to use primary fall prevention systems have been exhausted or when being used together with primary systems. The following minimum standards shall be met:

- Full body harnesses are the only type of harness allowed in a fall arrest system.
- A full body harness and shock-absorbing lanyard must be used when working outside guarded platforms more than 3 m (10 ft) above ground level.
- The use of a second shock-absorbing lanyard may be used to achieve continuous tie-off.
- Fall protection devices (safety harnesses, lanyards, etc.) shall be inspected for damage prior to each use.

Defective equipment shall be immediately removed from service, tagged and returned to your Supervisor.

- The lanyard shall be attached to the harness connection point (ie. D-ring).
- The full body safety harness/lanyard must be attached to a secure anchor point



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- Snaphooks attached to shock absorbing lanyards shall be of the double action/locking type design. Simple spring resistant snaphooks shall not be used for fall protection
- Fall protection devices and systems shall not be used for any other purpose other than employee safeguarding.
- Workers in elevated work platforms or personnel lifting devices shall wear full body harnesses and secure their lanyards according to manufacturer instructions.
- In situations where a fall could result in impalement or other injury (i.e. working over a hot process, operating equipment, etc.) fall protection equipment shall be utilized regardless of the potential falling distance.
- Fall protection devices subjected to shock loading imposed during fall arresting shall be removed from service and tagged.
- Fall protection devices shall be inspected on an annual basis by a qualified external inspection agency as required.
- All workers using fall protection devices must complete training specific to the equipment used including procedures on the use, care, inspection and maintenance of the fall protection devices or systems.

Anchor Points

The strength of a personnel fall arrest system is based on being attached to an anchor system that does not reduce the strength of the system. Anchor points must be sufficient to resist the arrest force of a fall.

Lifeline Systems

Lifeline systems are points of attachment for fall protection lanyards and harnesses. Lifelines may be mounted either vertically or horizontally and provide fall protection for personnel working in elevated areas.

- Lifelines shall not be used for any other purpose than fall protection
- Lifelines shall be protected against being cut or abraded (ie. Softeners around lifelines at anchor point)
- Lifelines must be designed, installed, maintained and removed by persons competent and trained in lifeline installations

REQUIREMENTS

Training:

All workers using fall protection devices must complete training specific to the equipment used including procedures on the use, care, inspection and maintenance of the fall protection devices or systems.
Training must be conducted by a competent person or organization.