PROCEDURE

Work At Height

REVISION HISTORY

Revision No.	Issue Date	Amendment Description	Date Effective	Date to be Revalidated
00	05-Mar-2013	Newly Established	10-Mar-2013	09-Mar-2016
	09-Mar-2016	Checked & Found Correct	09-Mar-2016	08-Mar-2019
01	11-Nov-2018	Significant changes in content and structure	11-Nov-2018	10-Nov-2021
02	27-Mar-2020	Procedure revised with revised template	27-Mar-2020	26-Mar-2023

TABLE OF CONTENTS

REVISION HISTORY

TABLE OF CONTENTS

1 INTERNAL CONTROLS

1.1 REVIEW of PROCEDURE

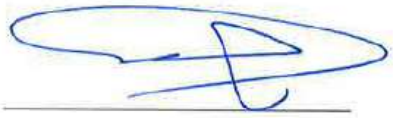
To assure Managements, Shareholders and External agencies confidence in the company's policies & practices, QATAR STEEL Internal Audit may verify compliance with this procedure. [Department Owner] shall review this procedure every three years to ensure that it continues to serve the purpose intended.

1.2 EMPLOYEE RESPONSIBLITIES

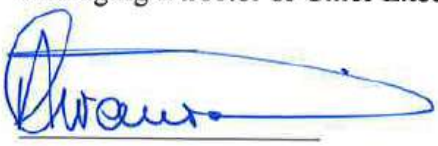
All employees of the company are required to observe and abide with this procedure.

1.3 APPROVAL

This procedure and any amendments made thereto require the following approvals.

AUTHORITY	DATE
	24/3/2020

Approved By:
Mohammed Nasser Al-Hajri
Managing Director & Chief Executive Officer (MD&CEO)

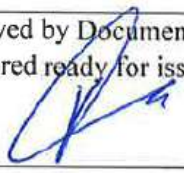
	22-03-2020

Checked By:
Alexander Stramrood
Manager – HSE Department

	18-MAR-2020

Drafted by:
Adnan Akram
HSE Engineer – HSE Department

This document has been reviewed by Document Controller. It complies with the requirements of policy 1.12.0.1.01.01 and it is considered ready for issue.

Signed by  **Date** 18 MAR 2020

2. PURPOSE

The purpose of this procedure is to establish procedures to support a safety and health program and to comply with Qatar Safety Standards. The purpose of this procedure is to ensure mitigating measures for all risks associated with working at height within Qatar Steel.

This standard provides requirements and guidance for selecting fall-arrest systems, the inspection and use of these systems, and training of the system's users. The standard includes a description of a three step, systematic approach to help protect people from falls from heights and also explains how to eliminate fall hazards, prevent falls, and prevent or minimize an injury if a fall occurs.

3. SCOPE

This procedure applies to all QS employees, contractor & sub-contractor personnel. Each contractor shall ensure that its employees follow this procedure as a minimum. This procedure applies to all tasks that require working at a height which are performed in QS workplaces including offices.

4. PROCEDURE

4.1. Definitions

100% Tie-off: Use of double lanyards, ensuring at least one lanyard is attached at all times.

Anchor: the attachment of the lanyard connector to an anchorage.

Anchorage: a secure point of attachment, not part of the work surface, to which lifelines, drop lines, lanyards, or deceleration devices are affixed. Any anchorage point is independent of the means of supporting or suspending the person.

Anchorage connector: a component or device that is installed on an anchorage and is specifically intended for attaching a fall-arrest system to the anchorage.

Body belt: a strap with means for both securing it about the waist and attaching it to a lanyard, lifeline, or deceleration device (see Section 6.3.1). It is also called a waist belt, safety belt, or mining belt. The body belt is not acceptable as part of a personal Fall Arrest System, but can be used as a restraint or positioning belt.

Carabineer: a trapezoid- or oval-shaped connector component with a gate or similar arrangement that remains closed until it is intentionally opened for connection or disconnection. (See Figure 1A)

Competent Person: A person who is capable of identifying existing and predictable hazards in the surroundings or other working conditions which are hazardous, or dangerous to employees and has the authorization to take prompt corrective measures to eliminate them. Competent persons should be suitably qualified and authorized.

Fall-arrest system: a system used to arrest (secure, suspend, or assist in retrieving) a person in a fall from a working level or a hazardous work area. It consists of an anchorage, connectors, and full-body harness; it may also include a lanyard, shock absorber, lifeline, self-locking snap hook, or suitable combinations of these.

Full-body harness: a design of straps that contains the torso and is secured about the user in a manner to distribute the arresting forces over the torso and thighs with a means of attaching it to other components of a personal fall-arrest system. Attachments for positioning, restraint, and retrieval may be included.

Fall Clearance: The unrestricted length of travel before an individual strikes an object, reaches grade level, or the personal fall arrest system/equipment is activated.
Example:
LL Length of the Lanyard
+ DD Deceleration Distance
+ D-Ring movement
+ HH Height of the Suspended Worker
+ C Safety Factor = RD Total Fall Distance
Example: For a Standard lanyard of 1.8 meter, the total fall distance will be 17.5 feet or 5.2 meters (Refer to Figure 4)

Fall hazard: a condition or situation that could result in a fall from heights.
Fall prevention—precluding exposure to a fall hazard through the use of complete scaffolds, personnel lifts, and travel limiting lanyards or tethers; performing the work at ground level; and other approaches.

Fall protection: the utilization of systems to arrest or minimize exposure to a fall when such exposure is unavoidable.

Floor opening: an opening in a floor or working surface that is 12 in. (305 mm) or more in its smallest dimension.

Free fall: the act of falling vertically before fall arrest equipment activates.

Guardrail: A vertical barrier consisting of a top rail and a mid-rail secured to uprights and erected along the exposed sides and ends of platform. This barrier is erected to prevent personnel from falling off a working platform to a lower level.

Ladder safety system: a system designed to eliminate or reduce the possibility of falling from a ladder. A ladder safety system usually consists of a carrier, safety sleeve, lanyard, connectors, and full-body harness. Cages and wells are not ladder safety systems.

Lanyard: a flexible line that secures a person wearing a harness to an anchorage, anchorage connector, lifeline, or drop line. These must be ANSI certified and inspected prior to each use.

Leading edge: A leading edge is considered to be an 'unprotected side and/or edge' of a platform, pipe rack, dock front, etc. that changes location as additional floor or deck sections are placed.
Ledgers (stringers): A horizontal scaffold member which extends from post to post and which supports the putlogs or bearers forming a tie between the posts.

Lifeline: A line between two fixed anchorage points, independent of the work surface, to which a lanyard is secured.

Mobile Elevating Work Platform (MEWP): Power-operated elevating work platforms designed to provide a temporary working surface which can be easily moved from one location to another. The height of MEWPs can be adjusted using articulation, scissor mechanisms, telescoping booms, or towers. The platforms can be vehicle-mounted, self- propelled, towed, or manually moved.

Orthostatic shock: also known as suspension trauma, the life-threatening condition created when blood pools in the legs and is prevented from returning to the rest of the body; this may occur while suspended in a safety harness.

Personal fall-arrest system: see the definition for fall-arrest system.

Platform: A work surface elevated above lower levels.

Qualified person: one who, by possession of a recognized degree, certificate, **or** professional standing **or** by extensive knowledge, training, and experience, has successfully demonstrated his /her ability to identify risks and solve or resolve problems relating to fall prevention and fall protection. He/she is responsible for the design and installation of the fall prevention or protection system.

Risk assessment: a systematic and structured process whereby hazards, in this case fall hazards, present in a workplace or arising from work activity are identified, assessed, and evaluated for risk and exposure, and protective and preventive measures are identified to reduce risks to acceptable levels. Risk assessments can be formal or informal, depending on the nature of the task.

Rollout: a process by which a snap hook or carabiner unintentionally disengages from another connector or object.

Rope grab: an automatic lifeline device that acts by inertia to grab the lifeline if a fall occurs. Rope grabs are used when moving vertically (e.g., work from boatswain chairs, rope decent systems, or suspended scaffolds). A rope grab is one type of a fall arrester.

Scaffold: A temporary elevated platform with guardrail (supported or under hung) used for supporting personnel and materials or both.

Self-locking snap hook: a hook-shaped connector with a gate or similar arrangement that remains closed and locked until it is intentionally opened for connection or disconnection. The gate automatically closes when it is released. (See Figure 1B.)

Self-retracting lanyard (SRL): a fall-arrest device containing a drum-wound line that can be slowly extracted from or retracted onto the drum under slight tension during normal work movement. After the onset of a fall, an SRL automatically locks the drum and arrests the fall within two feet (0.6 meters).

Shock absorber: a device that limits shock-load forces on the body. Most shock absorbers are made of a webbing material with tear-away stitching designed to gradually absorb the fall-arrest load. Deceleration devices are also considered to be shock absorbers.

Suitable Anchor point: A secure point of attachment for lifelines, lanyards or other deceleration devices which have the capacity to support a load of not less than 5000 pounds, per employee attached or certified by a competent person such as Engineering Department representative for fixed structure, platforms and piping; whereas and the Scaffolding Supervisor (Third Party Certified) for scaffolding structure.

Suspension trauma: See orthostatic shock.

Tether: a restraint line from an anchorage, or between anchorages, to which the person is secured in such a way as to prevent the person from walking or falling off an elevated work surface.
Note: A restraint line is not necessarily designed to withstand forces resulting from a fall.
Temporary Work Platform (Certified): A temporary working space for persons, elevated above the surrounding floor or ground; which are certified by the competent person for its safe use such as for scaffold.

Three-point contact: the three-point rule to follow when working from a ladder (two hands and one foot, or two feet and one hand on the ladder at all times). This rule includes when climbing up and descending from a ladder.

Toe Board: A board that is placed at the base of a scaffold platform in a way that prevents material or feet from slipping off the platform.

Transom: Horizontal member normally in the direction of the smaller dimensions of the working scaffold.

Working at height: Qatar Steel deems that whenever a person or object has the potential to fall more than 1.8m off, into, or through something, a safe system of work shall be adopted. If a person believes that their safety is at risk at a lesser height, then it should also be deemed as Working at Height and appropriate measures taken.

Worksite: Refers to any work site where Qatar Steel has the prevailing influence over safety and health or which is dedicated to work for Qatar Steel.

4.2. Responsibilities

4.2.1. Responsible Supervisor:

The responsible supervisor is accountable to provide the necessary resources to ensure safe systems of work that ensure this procedure is understood, applied and observed within their area of authority.

4.2.2. Manager Health and Safety & Environment:

The HSE manager is responsible for:

- Providing specifications for the fall arrest system procurement.
- Carry out the technical evaluation of fall arrest system procurement.
- Notify the fall arrest system users for any change in the requirements.
- Maintain this procedure through periodic review and evaluation.
- Periodically verify the inspection records and documentation.
- Periodically audit the compliance of this procedure.
- Ensuring safety systems are kept up to date in relation to this procedure.
- Recording and analyzing incident / investigation data.
- Ensuring that this procedure is reviewed as stipulated.

4.2.3. Department Manager:

- Have the responsibility for the management or control of a work place, within their area of authority, and must ensure this procedure is implemented.
- They shall maintain a Hazard and Risk register and appropriate signage for their work place;
- Shall ensure that competent and qualified persons are assigned and authorized for the management and execution of work within their area of authority. Managers should also publish a list of all the authorized competent and qualified persons.
- Provide appropriate resources to all persons to comply with this procedure.
- Ensure an appropriate JSA is conducted.

4.2.4. Authorized Persons:

- Has the responsibility for following this procedure and ensuring those working under their control follow this procedure.
- They have responsibility for the safety of personnel following this procedure and for maintaining appropriate records relating to their activities.

Department managers and Asset owners are accountable, while Head of Sections, Engineers, Site supervisors, authorized Issuing officers, Persons in Charge and users are all examples of Responsible Persons.
The main difference between responsibility and accountability is that responsibility can be shared, while accountability cannot. Being accountable not only means being responsible for something, but also ultimately being answerable for your actions.

4.2.5. Employee/Contractor:

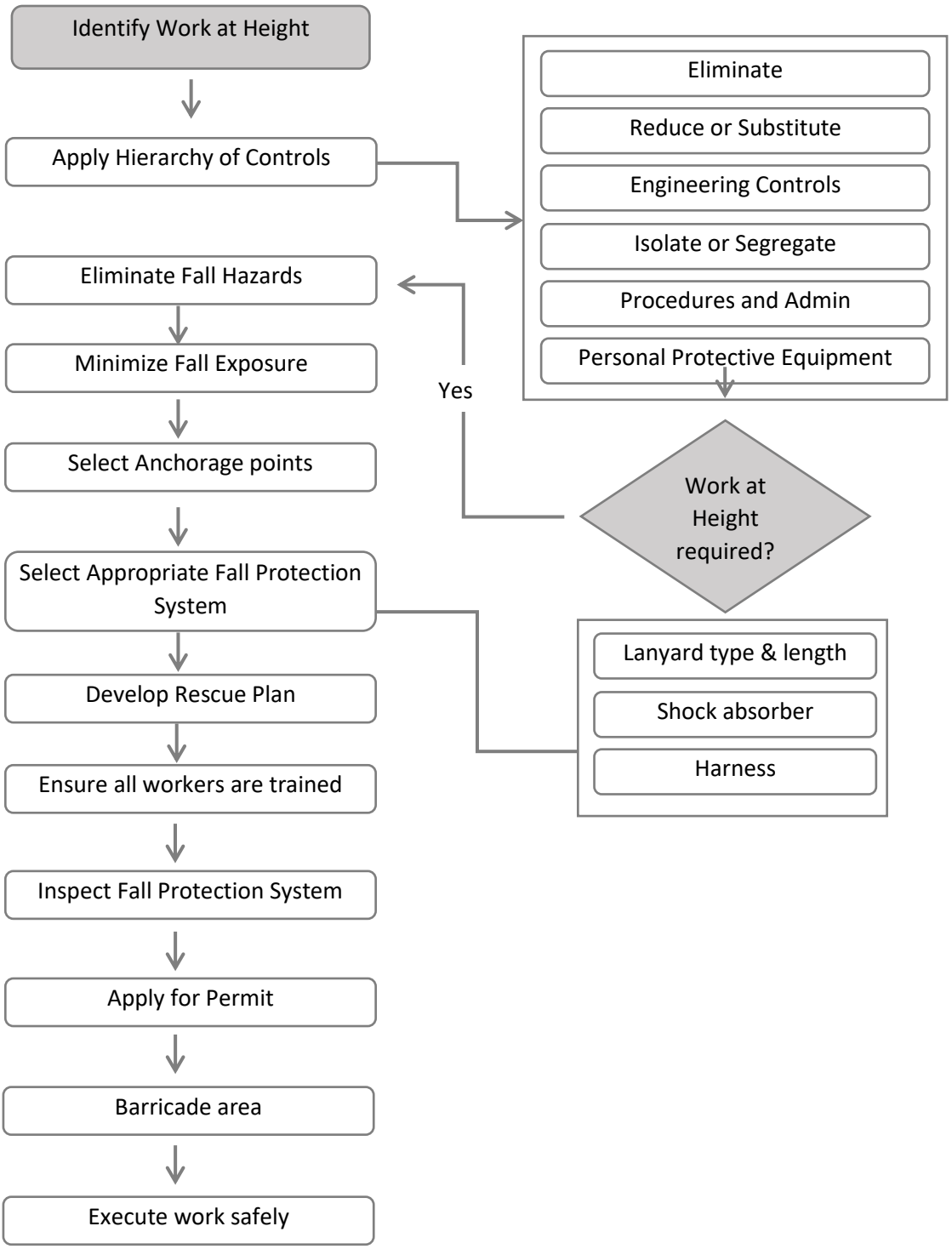
- Are required to act in a manner that does not adversely affect their own health and safety, or that of others.
- They may be instructed persons and shall comply with the terms of this procedure and must immediately report to the accountable person any matter that may affect their own or others' health and safety.

4.2.6 Emergency Rescue team

The employer should appoint rescue team members.
The Rescue team members should be trained and declared competent before authorized by the employer.
At least quarterly exercises to be conducted to ensure the skills levels are optimized.
All rescue equipment to be inspected and maintained in operable condition.
Rescue plans to be delivered on request, with detail provided by requesting department/section.

4.3. Process Flow

The following process flow describes the sequence of steps to be followed when defining the risk mitigation and controls for working at height.



4.4. Responsibility Matrix

Task	Department responsible for area	Executing department	HSE department	Fire & Rescue department
Identify Work at Height	**A/R**			
Apply Hierarchy of Controls	**A/R**		**C**	
Eliminate Fall Hazards	**A/R**		**C**	
Minimize Fall Exposure	**A/R**		**C**	
Select Anchorage points	**A/R**			
Select Appropriate Fall Protection System	**A/R**	**I**	**R**	**C**
Develop Rescue Plan	**A/R**		**I**	**R**
Ensure all workers are trained		**A/R**		
Inspect Fall Protection System		**A/R**	**C**	**C**
Apply for Permit	**I**	**A/R**	**I**	
Barricade area	**I**	**A/R**		
Execute work safely		**A/R**	**C**	

Legend:
A = Accountable
R = Responsible
C = Consult
I = Inform

4.5. Hierarchy of Fall Prevention and Protection

Where the potential for a fall from height exists, the hazards shall be eliminated or the risk to be controlled to an acceptable level by adopting the following hierarchy of control:

- Eliminate: Avoid work at height. Work at height should only be carried out if absolutely necessary. Eliminate fall hazards through design (wherever practicable).
- Reduce/Substitute: Prevent fall; e.g. priority consideration for the use of inherently safer options for working at height such as man-lift, scissor-lift as compared to scaffolding erection. If not possible use a certified scaffolding platform.
- Engineering Controls: Designed controls which reduce risks – e.g., provision of permanent platform where practicable, etc.
- Isolate/Segregate: Activities undertaken to isolate a hazard from impacting on people or the environment (e.g. work restraint covers techniques that restrict the movement of the person to prevent approaching fall hazards.
- Procedures/Administration: Working methods and training used to mitigate risks.
- PPE: This is the last defense in the risk reduction hierarchy e.g., use of certified fall protection devices.

4.6. Fall prevention

4.6.1. Prevention through design

Planning for fall prevention and fall protection during facility design and engineering provides the best opportunity to establish effective prevention and protection systems. Fall prevention and protection, including safety during access and egress from elevated working surfaces, shall be addressed during facility design and major equipment or facility modifications for the safety of construction, maintenance, and operations employees who must work at heights. A **qualified person** shall be involved in the design phase of the work.

4.6.2. Risk assessment

A risk assessment is used to provide a systematic and structured approach to identify, assess, and evaluate fall hazards. It is a valuable tool to help line management, qualified persons, and employees choose the appropriate preventive and protective controls to prevent and minimize fall hazards.
Where the potential for a fall from height exists, a risk assessment shall be conducted to determine the nature and extent of the fall exposure. The risk assessment should consider the following:

- Potential fall distance
- Access and egress
- Number of employees involved
- Duration of task
- Frequency of the task
- Vertical and horizontal movement
- Walking and/or working surfaces (e.g., stability, slope and levelness, structural integrity, and adequacy of size)
- Available anchorages
- Environmental factors (e.g., rain, wind, dust, humidity, illumination and visibility)
- Ability for self-rescue and possibility of emergency rescue

4.6.3. Eliminating the fall hazards

The first step in fall prevention is to eliminate as many fall hazards as feasible. The process should begin by carefully assessing the workplace and the task or operation to be performed. Addressing fall prevention and fall protection in the early phases of work allows safety to be designed into the work process, not added as an afterthought to an inherently unsafe work plan. Examples of fall hazard elimination include

- Eliminating elevated work by employing methods to do the work from the ground or floor level.
- Maintaining standard railing and hole covers while performing maintenance work.
- Using standard railing on open-sided floors, floor openings, platforms, runways, and docks.

- Using a tether attached to full-body harnesses to prevent exposure to a fall hazard.

Note: A tether is frequently used in bucket trucks. A short lanyard is attached to a full-body harness effectively keeping the person from leaning out of the bucket far enough to fall.

4.6.4. Minimizing the fall exposure

The second step in fall prevention is to minimize fall exposure when fall hazards cannot be completely eliminated. A workplace and/or task analysis should be performed to identify potential hazards for a fall from height and hazards that result from work conducted at height. A risk assessment shall be performed as part of the process.

Note: Because of residual exposure to fall hazards, this second step is often used in conjunction with the third step, using fall-arrest equipment.

Considerations for minimizing fall exposure hazards include:

- Using equipment designed for working at heights (e.g., aerial work platforms).
- Reducing the number of employees involved.
- Reducing the time of exposure.
- Reducing the distance of the potential fall.
- Ensuring no material or equipment can fall from height.
- Barricading the area to ensure no workers at a lower level is affected.

4.7. Fall protection System

4.7.1. Using fall arrest equipment

The third step (the last line of defense against falls) is the use of fall-arrest equipment. Whenever work is performed at heights and fall-arrest equipment is to be used, a risk assessment shall be conducted to determine the proper type and correct use of fall-arrest equipment.

Fall-arrest equipment shall be used at heights greater than or equal to 6 ft. (1.8 m) as measured from the person's feet to the next lower level when physical protection (e.g., a guardrail system) is not available. See Section 6.4.3 for guidance when working from portable ladders.

At a minimum, fall-arrest systems shall be used when

- A risk assessment indicates it is needed.
- Working within 6 ft. (1.8 m) of an unprotected edge (e.g., a floor or wall opening or roof edge).
- Working from high-pitch roofs (i.e., greater than a 18° slope).
- Working from suspended scaffolds, crane baskets, or telescoping, rotating, and/or articulating boom man lifts.
- Working from scissor lifts when the lifts are equipped by the manufacturer with a tie-off point connecting directly or indirectly to an anchorage.

Note: Scissor lifts are distinct from man lifts and are similar to complete scaffolds. Therefore, fall protection for scissor lifts is the same as it is for complete scaffolds.

Under some circumstances, working at heights less than 6 ft (1.8 m) may call for the use of fall arrest equipment. Fall-arrest equipment shall be used for all work—regardless of height—done from open-sided floors, walkways, platforms or other surfaces above or adjacent to dangerous equipment, open top tanks and vessels, and similar hazards where no standard railing is in place. A qualified person may also determine that its use is appropriate in a particular situation.

When fall-arrest equipment must be worn, it shall be secured whenever the person is stationary. The person must also be secured while moving unless continuous anchorage is not feasible, which shall be documented in a fall protection plan or site procedure. Using a double lanyard system is one method of accomplishing continuous anchorage. Self-locking snap hooks shall be used in conjunction with lanyards. When fall hazards cannot be eliminated through design and engineering or through the techniques discussed, the fall-arrest requirements in this section must be followed. Sometimes wearing fall-arrest equipment can create a greater hazard than the fall itself (e.g., making line breaks on hazardous systems or doing leak repair on energized systems while working at heights). Issues to consider include emergency egress if a release of a hazardous material occurs and a secured lanyard hinders emergency escape. In these situations, alternative measures shall be put in place to provide fall protection.

Note: Body belts (waist, safety, or mining belts) and chest harnesses (with no leg straps) shall not be permitted as fall prevention or as components of a personal fall-arrest system (see Figure 7).

4.7.2. Anchorages and anchorage connectors

Regulatory requirements for fall protection anchorage capacities vary among regions and countries. Minimum anchorage capacities must comply with those requirements; however, the minimum capacity shall not be less than 5,000 lbf (22 kN) for each person attached to the anchorage or that the anchorage is designed, installed, and used as part of a complete fall-arrest system that maintains a safety factor of at least two and is under the supervision of a **qualified person.**

Anchorage used for the attachment of personal fall-arrest equipment shall be independent of any anchorage being used to support or suspend work platforms.

Anchorage connectors shall be used as recommended by the equipment manufacturer or **qualified person** to provide safe coupling of the harness to its anchorage. A separate anchorage connector shall be used for each person attached to an anchorage.

Anchorage connectors shall be subject to the same capacity criteria as the anchorage. Anchorages shall be inspected for obvious defects or deformities prior to use.

Guidance on capacities for acceptable anchorages for structural steel, steel piping, and cable trays (i.e., electrical raceways) is located in Table 1 through Table 4. These tables should be used by **qualified persons** familiar with the facility infrastructure to assist in selecting anchorages.

The following anchorages are conditionally acceptable and shall only be used when evaluated and approved by a **qualified person:**

- Grating
- Pipe supported on rod hangers
- Rod hangers 1/2 in. (13 mm) or greater
- Steel trusses
- Reinforcing steel (rebar)
- Wood post and/or frame construction
- Equipment structural attachments (e.g., lifting lugs and eye bolts)
- Rigging (e.g., hoist hooks, beam clamps, and slings)
- During scaffold erection, dismantlement, and use, where no other feasible anchorage is possible and where the manufacturer or a qualified person has approved the anchorage, scaffolding may be used as anchorage.

The following anchorages are unacceptable and shall not be used:

- Aluminum conduit or cable trays.
- Aluminum structural members
- Aluminum, cast iron, copper, and plastic pipe; all sizes
- Duct work, all sizes
- Guardrail components (unless approved by the owner and meets anchorage specifications)
- Rod hangers less than 1/2 in. (13 mm)
- T-bar
- Tubing
- Roof vents
- Lighting fixtures
- Sprinkler heads and fire protection piping
- Pipelines that the site has determined, because of content or service, pose an unacceptable risk

4.7.3. Personal fall-arrest systems

When a personal fall-arrest system is selected to provide fall protection and/or to protect against the hazard of ejection from the work platform of an aerial lift device, a full-body harness shall be used.
Before using a personal fall-arrest system, the **competent person** (supervisor and/or the user) should address the following questions:

- Has the user been trained to recognize fall hazards and to use fall-arrest systems properly?
- Are all components of the system compatible according to the manufacturer's instructions?
- Have all components in the fall-arrest system been qualified for users who weigh more than 310 lbs. (140 kg), if applicable?
- Have appropriate anchorages and attachment techniques been reviewed?

- Has the free-fall distance been considered so that the person does not strike a lower surface or object before the fall is arrested?
- Have the free-fall distances been limited to 6 ft. (1.8 m) or less where practical?
- Is a shock absorber used when feasible?
- If the lanyard is tied back to itself, is the snap hook or carabineer appropriately designed to prevent rollout?
- If carabineers are used, are they self-locking?
- If less than 18ft. or 5.5 m in height from anchor to surface below, should retractable lifelines be used to prevent ground contact in the event of a fall? See Figure 4.
- Have pendulum-swing fall hazards been eliminated? See Figure 5.

Have safe methods to retrieve fallen users been planned? Is a rescue plan available (see Attachment 1)?

- Have the full-body harness and all its components been inspected?
- Is any of the equipment, including lanyards, connectors, and lifelines, subject to welding damage, chemical corrosion, sandblasts, or other similar problems?
- Has the user of the full-body harness emptied all of his or her relevant pockets to avoid pinch points?

When sites elect to use components and subsystems made by different manufacturers within the same system, the sites shall take precautions to determine that the components and subsystems are compatible by consulting the respective manufacturers.

4.7.4. Self-retracting lifeline

When used correctly, self-retracting lifelines (SRLs) provide employees a method of continuous fall protection while ascending and descending from elevated areas. While more than one retractable lifeline may share an appropriately rated common anchorage, only one person at a time shall use an SRL. To properly use the lifeline, the locking snap hook must be connected directly to the harness "D" ring and not to a shock-absorbing lanyard.

SRLs should be considered when working on roofs and scaffolds or in tanks, towers, vessels, and manholes. SRLs should also be considered when climbing on equipment (e.g., vertical fixed ladders and telescoping derricks). See Figure 1C. For tasks involving confined space hazards, combination SRLs with built-in retrieval systems may be used.

Once a SRL has been used to arrest a fall it should be sent back to the manufacturer for testing and re-certification.

4.7.5. Lifelines

Horizontal and vertical lifelines shall be designed by a **qualified person**. They shall be installed and used according to the design.

A lifeline shall have a minimum breaking strength per person equivalent to the anchorage capacity, unless it is part of a complete personal fall-arrest system, in which case it must maintain a safety factor of at least two.

Horizontal lifelines may, depending on their geometry and angle of sag, be subjected to greater loads than the impact load imposed by an attachment component.
See Figure 6 for an illustration of a typical horizontal lifeline installation.
A vertical lifeline shall suspend freely from an independent anchorage without contact along its length with structures or other objects that would adversely affect its integrity or function. Vertical lifelines shall extend fully to the next lower level, and the lower end of the vertical lifeline shall be stabilized. A lanyard shall be attached to a vertical lifeline using a rope grab device. No more than one person shall be permitted to be secured to a vertical lifeline. The rope grab device and the vertical lifeline must be compatible.

4.7.6. Lanyard

- Do not tie knots in a lanyard while it is attached to an anchorage (tied off point); this will reduce the strength of the lanyard.
- Use caution when working near equipment that is hot. Lanyards can be damaged if they come in contact with hot pipes or other hot equipment.
- When not in use, lanyards should be wrapped around the body and attached to the harness to prevent tripping or snagging. Never drag the lanyard.
- Lanyard must have a deceleration device and fall clearance must be maintained as per Figure 3 & 4.

4.7.7. Safety net systems

A safety net system is the least desirable fall-arrest system. If a safety net is used, it must be installed as close as practical under the walking and/or working surface. A safety net system must never be more than 25 ft (7.6 m) below the working surface.

4.7.8. Airbags

Air bags are another option available to address potential falls. Airbags shall be used only in accordance with the manufacturer's recommendations and only under the supervision of a person competent in their use. In addition, many countries have specific requirements regulating their use.

4.7.9. Equipment Inspection

- Each piece of fall arrest equipment must be identified with a serial number.
- Harnesses and Lanyards.
- Manufacturer's original tag shall be retained on the harnesses and lanyards.
- The user shall carry out pre-use inspection of Harness and Lanyard before each use.
- Monthly inspection shall be carried out by trained personnel. Detailed 'Safety Harness/Lanyard Inspection Checklist' is provided as Attachment 3 to this procedure and shall be recorded.

4.7.10. Storage of Fall Protecting Equipment

- Harnesses Should Be Hung Up: Harnesses are potentially risky to use even on a basic construction job because they cannot be used when they are damaged. Hang up the harnesses in safe areas as soon as the job are finished with them. It's the same with fall protection anchors; it should be stored very carefully away from sharp tools which could cause damage.
- Cool, Dry Places Are Needed: Fall protection items to be stored in a dry and cool place as extreme (hot or cold) temperatures can do a lot of damage to fall protection equipment. Items should be stored away from direct sunlight.
- Safe Locations: Every piece of equipment must be kept in a safe location at all times where no insects or rodents can harm them.

4.8. Safe Practices

4.8.1. Permanent Work Platforms, Roofs, Floors and Wall Openings

- All unprotected sides or edges of walking and working surfaces, floors, platforms, ladder way openings, roofs, and holes presenting a fall hazard of four feet (1.2 meters) or greater to a lower level, shall be protected by a standard railing (or equivalent) on all open sides except where there is an entrance to a ramp, a stairway, or a fixed ladder. The railing shall be provided with a toe-board on the open sides wherever people can pass underneath or where there is equipment with which falling materials could create a hazard.
- Where guarding for floor openings, work platforms, or other structures is not possible, employees shall use an appropriate fall arrest system.
- Personal fall arrest system is required if working outside the confines of the guardrails on a platform.
- A HIRA or JSA must address adequate fall protection measures. Examples include but not limited to:
- Installing a temporary guardrail system
- Safety harness and tie-off requirements
- Self-retracting devices and tie-off requirements where the fall clearance is limited.
- Restrict Access - Hard barricade with signage to prevent use of walkway or platform
- Determine if a Rescue Plan is required.

4.8.2. Scaffold

A complete and certified scaffold is considered to be a temporary platform and would normally not require fall protection equipment to be worn, unless a risk assessment indicates otherwise.

- Green Scaffold Access Safety Tags (SAFE TAGS). This tag indicates a ready for use condition and that scaffold has been inspected and certified by a qualified inspector. The qualified scaffold inspector shall revalidate this tag:
- Every seven days, or

- When there is a change in weather that could affect the structure, or
- Any alteration or modification of the scaffold takes place, or
- Any incident happened that could affect the integrity of the scaffold.
- Never extend working height by placing planking on guardrails or by the use of boxes, ladders, or other makeshift devices on top of scaffolds.
- Personal fall arrest system is required if working outside the handrails of a scaffold.
- Personal fall arrest systems should be worn at all times during erection and dismantling of any scaffold.

Scaffolding construction design, inspection, safety requirements and the approval process are detailed in the Scaffolding Standard

4.8.3. Ladders

In most situations, fixed ladders should be protected with ladder cages, **or** a personal fall-arrest system, **or** a ladder safety system.

A ladder safety system meeting regulatory or national consensus standards (e.g., ANSI or International Organization for Standardization [ISO]) can be attached to a permanently installed ladder or to a rigidly installed portable ladder. The system provides continuous protection while a person ascends or descends the ladder by automatically locking and arresting a fall.
Ladder safety systems shall not be used in lieu of cages on ladders that constitute an alternate means of egress from elevated locations because the user may not be wearing an appropriate harness and fittings.

Safe practices for climbing or descending from ladders:

- Fall arrest systems need not be used when climbing ladders, unless the ladder is equipped with a vertical lifeline system.
- Working from portable ladders where both hands are needed and when the person's feet are six feet (1.8 meters) or more above the lower level shall require the use of a fall arrest system
- The **competent person** (supervisor) will ensure that the requirements are implemented and followed for fixed and portable ladders:
- Only non-conductive ladders such as fiberglass shall be used in work activity involving electrical systems. Aluminum (metal) two-and three-step stepstools and rolling stepstools are permitted for use in control rooms and offices, etc. The use of this equipment shall be based on the service and hazard of the task.
- Ladder inspections: Before each use of portable ladders, User shall visibly inspect the ladder and color coded. If defects are noted, the user should tag the ladder 'DANGER-DO NOT USE'. The ladder should be taken out of service and repaired or destroyed.
- All fixed ladders shall be inspected through the Engineering section after which the frequency will be determined and stipulated in the revised procedure.

- Ladders that are repaired shall receive an inspection and operational test prior to being placed back in service.
- Step, A-frame, straight, and extension ladders, mobile ladder stands and mobile ladder stand platforms must be inspected and have an operational test performed on a monthly basis.
- Ladder use and replacement:
- Permanent caged structural ladder may be ascended and descended without additional fall protection.
- Portable ladders (extension ladders, step ladders, straight ladders, etc.) shall extend at least three feet above their uppermost landing and be secured against displacement. Appropriate straight and extension ladder placement should be outward one (1) foot (.3 meter) for each four (4) feet (1.2 meters) of rise.
- Step and A-frame ladders must be used in the full open position. These ladders should not be used in the place of straight ladders.
- Ladder feet shall be placed with a secure footing. Ladders are to be placed on a solid surface and not to be placed on boxes, drums, scaffolds, or similar items in order to gain additional height. Ladders shall not be used in horizontal position as a platform, runway, or scaffolding.
- Rope ladders may not be used, unless a risk assessment has been conducted and approval obtained from HSE department.
- Ascending and Descending a Ladder:
- Personnel shall maintain three points of contact with the ladder. Materials or tools shall not be carried in hands while ascending or descending ladders. A system for raising and lowering loads such as tool bags or tool belts shall be used instead.
- Personnel climbing ladders not tied off must have another person hold the ladder at the bottom until the ladder can be secured. This includes the last trip down after untying the ladder at the top.
- Upon climbing to the elevation where the task is to be performed the person on the ladder shall properly secure his lanyard first before doing anything else. Next, the ladder must be tied off before work can begin. When the task is complete the process is reversed with the lanyard being the last protective device released prior to decent.

Specification, maintenance, inspection and ladder approval requirements should be detailed in a separate standard

4.8.4. Mobile Elevated Work Platform (e.g. Man-lift, crane hoisted man basket etc.)

- Only an authorized person may operate vehicle mounted elevated work platforms. To be considered a **competent** operator, he shall be TP trained and certified. The requirements to follow are:
- Boom and basket load limits shall never be exceeded. Lift controls on these vehicles shall be tested for correct operation each day of use to ensure that are in safe working condition.

- Personal Fall Arrest Systems equipment shall be worn while working in an elevated platform and tie-off shall be made to the lift basket at all times. Tying off to adjacent structures and anchorages is not permitted.
- The brakes on the vehicle shall be set when it is in a working position. If outriggers are used, they shall be positioned firmly on a solid surface. Wheel chocks shall be used when the lift is positioned on an incline. Moving the vehicle while the platform is in an elevated or working position is not permitted unless the vehicle is specifically designed for this purpose.
- Personal fall arrest system is required while working on, raising, lowering, and re-positioning powered elevated work platform.
- Workers shall not enter or exit a MEWP when elevated.

4.9. Rescue

4.9.1. Rescue Plan

- Self-rescue is most probable when free fall is limited to approximately 2 ft (0.6 m). Where practical, free fall should be limited to 2 ft (0.6 m).
- Rescue assistance is often called for to regain footing from falls 2 ft (0.6 m) to 6 ft (1.8 m). Fall protection planning shall include provisions for the prompt rescue of anyone who has fallen and shall be documented in the fall protection plan or the location's fall protection standard.
- When rescue cannot be affected within 10 minutes, equipment (e.g., sling type devices) that can be lowered to an individual should be on hand to allow the individual to relieve harness pressure on the legs to prevent suspension trauma. Sling type devices can be attached to the lanyard of lifeline and allows the individual to "stand" in the sling eyes. *Due to the nature of suspension trauma, it is recommended that individuals should not be allowed to lie down once they are rescued from height until rescue personnel arrive*.
- See Attachment 1 for a template of a fall prevention and protection planning sheet.
- When a fall arrest occurs, and self-rescue is not possible, the time it takes to rescue a victim is of great importance and the quickest, safest method available should be used including the use of ladders and MEWP's. In the event of a fall the spotter or co-worker shall immediately initiate a rescue a call by radio, Manual call point, to mobilize ERT team for the rescue. When possible, the fallen employee should climb to nearest safe structure, use a suspension trauma strap or other means to prevent suspension trauma until self-rescued or rescued.
- All jobs requiring the use of a fall arrest system and meeting any of the following conditions, a Work at Height Rescue Plan - shall be prepared and attached to the PTW. Below conditions shall be assessed as a part of the JSA:
- Additional hazards in fall path - Examples are hot surfaces, live electrical conductors, drowning hazards, etc.
- Rescue of the fallen person would be excessively difficult. – Examples are no means of egress available, specialized rescue equipment required, or rescue team cannot reach the location easily

- At a minimum, all the personnel working under the Rescue Plan are required to use suspension trauma straps.

4.10. Contractor Requirements

- Contractors shall provide fall arrest system equipment to their employees unless stated otherwise in the contract.
- Contractor equipment and employees shall comply with the requirements of this procedure.
- Contractor fall arrest system equipment shall have the manufacturers tag. Tag shall refer to ANSI Z359.1–2007 or to an equivalent traceable international standard. Fall arrest equipment without the original manufactures' tag shall not be used.
- Inspection records of the fall arrest system used by the contractor shall be kept at site for verification by Qatar Steel.
- Each user department responsible for the contractor must:
- Carryout the inspection on contractor fall arrest system.
- Ensure contractor employees are trained and aware of Work at Height requirements.
- Ensure the contractor is following Qatar Steel Work at Height procedure.
- Ensure the contractor authorize his own competent and qualified persons where required.

4.11. Training

- All personnel shall be provided training on general requirements of the Working at Heights Procedure.
- All personnel required to use fall protection devices shall be trained on their correct use and pre-use inspection through 'Working at Heights Training Module".
- Personnel carrying out the pre-determined inspections shall be trained in inspection of fall arrest equipment through the 'Working at Heights Training Module".

4.12. Audit and Records

4.12.1. Documentation

- Completed 'Safety Harness Inspection Form' shall be kept at the Workshop.
- Safety Department shall periodically verify the inspection and audit the documentation.

4.12.2. Procedure review

The Procedure shall be reviewed at least every 3 years or when a serious incident happened. The review shall include the evaluation of the following;

- Work at Height procedure, including fall hazard assessments for work at heights;
- Fall protection equipment inspection records;
- Training records and programs for all employees exposed to fall hazards;

- Changes to industry standards, laws, or regulations.

4.12.3. Records

- Inspection records shall be retained for the life of the equipment or three years whichever is longer.
- All prepared Work at Height Rescue Plans shall be attached with the closed PTW records and shall be retained as per the retention requirements.

4.13 Appendices

Table 1. Lanyard anchorage guidance at structural steel (English units)

LANYARD ANCHORAGE GUIDANCE AT STRUCTURAL STEEL

STEEL SHAPES	size d	size b	max span L	size d	size b	max span L
W-BEAM	6″	4″	10 ft	12″	4″	17 ft
	6″	6″	18 ft	12″	6 1/2″	28 ft
	8″	4″	13 ft	14″	5″	21 ft
	8″	5″	20 ft	14″	6 3/4″	30 ft
	10″	4″	14 ft	16″	5 1/2″	24 ft
	10″	5 3/4″	24 ft	16″	7″	30 ft
CHANNEL	5″	Any	7 ft	9″	Any	13 ft
	6″	Any	9 ft	10″	Any	15 ft
	7″	Any	11 ft	12″	Any	20 ft
	8″	Any	12 ft	15″	Any	30 ft
TEE	4″	4″	4 ft	6″	4″	8 ft
	4″	5″	7 ft	6″	6 1/2″	11 ft
	5″	4″	5 ft	7″	5″	12 ft
	5″	5 3/4″	8 ft	7″	6 3/4″	15 ft
S-BEAM	4″	Any	7 ft	8″	Any	19 ft
	5″	Any	11 ft	10″	Any	25 ft
	6″	Any	13 ft	12″	Any	30 ft
	7″	Any	16 ft	15″	Any	30 ft

L (max span) Support Points

Notes:

1. This guidance is for the members with size "d" as indicated in the table. Members with a greater "d" can be used for the tie-off without restrictions.
2. Tie-off can be at any point along the steel members.
3. This guidance applies to a one-person tie-off to a member.
4. If in doubt - contact responsible engineer.

Table 2. Lanyard anchorage guidance at structural steel (S.I. units)

LANYARD ANCHORAGE GUIDANCE AT STRUCTURAL STEEL

STEEL SHAPES	size(mm) d	size(mm) b	max span L	size(mm) d	size(mm) b	max span L
W-BEAM	150	100	3 M	300	100	5 M
	150	150	5.5 M	300	165	8.5 M
	200	100	4 M	350	130	6.4 M
	200	130	6 M	350	170	9 M
	250	100	4.3 M	400	140	7.3 M
	250	150	7.3 M	400	180	9 M
CHANNEL	130	Any	2 M	230	Any	4 M
	150	Any	2.7 M	250	Any	4.6 M
	180	Any	3.4 M	300	Any	6 M
	200	Any	3.7 M	380	Any	9 M
TEE	100	100	1.2 M	150	100	2.4 M
	100	130	2 M	150	165	3.3 M
	130	100	1.5 M	180	130	3.7 M
	130	145	2.4 M	180	170	4.5 M
S-BEAM	100	Any	2 M	200	Any	5.8 M
	130	Any	3.3 M	250	Any	7.6 M
	150	Any	4 M	300	Any	9 M
	180	Any	5 M	380	Any	9 M

L (max span) Support Points

Notes:

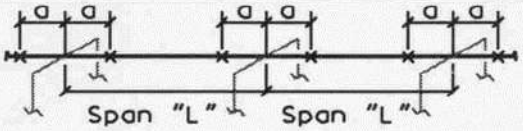
1. This guidance is for the members with size "d" as indicated in the table. Members with a greater "d" can be used for the tie-off without restrictions.
2. Tie-off can be at any point along the steel members.
3. This guidance applies to a one-person tie-off to a member.
4. If in doubt - contact responsible engineer.

All units are Metric

Table 3. Lanyard anchorage guidance at piping (English units)

LANYARD ANCHORAGE GUIDANCE AT PIPING

Pipe Size		CASE A Tie-off at any location	CASE B 10 ft Span	CASE C 20 ft Span
Nom.	O.D.	Max Span "L"	Max Distance "a"	
Carbon Steel Pipe				
2"	2 3/8"	4 ft	1.6 ft	1.6 ft
2 1/2"	2 7/8"	8 ft	3 ft	3 ft
3"	3 1/2"	12 ft	Any	5 ft
3 1/2"	4"	17 ft	Any	7 ft
4"	4 1/2"	23 ft	Any	Any
5" &larger	5 9/16"	38 ft	Any	Any
Stainless Steel Pipe				
2"	2 3/8"	2 ft	1 ft	1 ft
2 1/2"	2 7/8"	3.5 ft	1.5 ft	1.5 ft
3"	3 1/2"	5 ft	2 ft	2 ft
3 1/2"	4"	7 ft	3 ft	3 ft
4"	4 1/2"	9 ft	4 ft	4 ft
5"	5 9/16"	15 ft	Any	6 ft
6" &larger	6 5/8"	21 ft	Any	Any



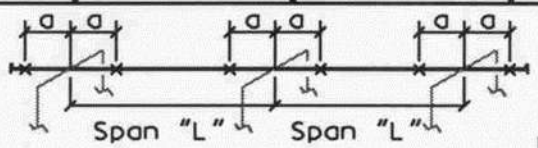
NOTES:

1. Case A indicates maximum pipe span for the tie-off at any location along pipes; Case B and C indicate allowable tie-off distance from a support for 10 and 20 ft pipe span respectively
2. This guidance is for the tie-off to laid-on-supports piping.
3. Tie-off is not allowed:
   - to pipe sections with valves, flanges and other fittings.
   - to pipes where corrosion is suspected.
   - to insulated pipes.
   - to fiberglass pipes.
4. To distinguish carbon steel from stainless steel pipe use a magnet. carbon steel is magnetic.
5. To distinguish fiberglass from metal pipe, gently strike pipe with a small hammer. Fiberglass pipe will produce a dull sound that does not radiate along pipe.
6. If in doubt - contact responsible engineer.

Table 4 Lanyard anchorage guidance at piping (S.I. units)

LANYARD ANCHORAGE GUIDANCE AT PIPING

Pipe Size (mm)		CASE A Tie-off at any location	CASE B 3M Span	CASE C 6M Span
Nom.	O.D.	Max Span "L"	Max Distance "a"	
Carbon Steel Pipe				
50	60	1.2 M	0.5 M	0.5 M
65	73	2.4 M	1 M	1 M
76	90	3.6 M	Any	1.5 M
90	100	5 M	Any	2 M
100	115	7 M	Any	Any
130 &larger	140	11.5 M	Any	Any
Stainless Steel Pipe				
50	60	0.6 M	1 M	1 M
65	73	1.1 M	0.45 M	0.45 M
76	90	1.5 M	0.6 M	0.6 M
90	100	2 M	1 M	1 M
100	115	2.7 M	1.2 M	1.2 M
130	140	4.5 M	Any	1.8 M
150 &larger	170	6.4 M	Any	Any

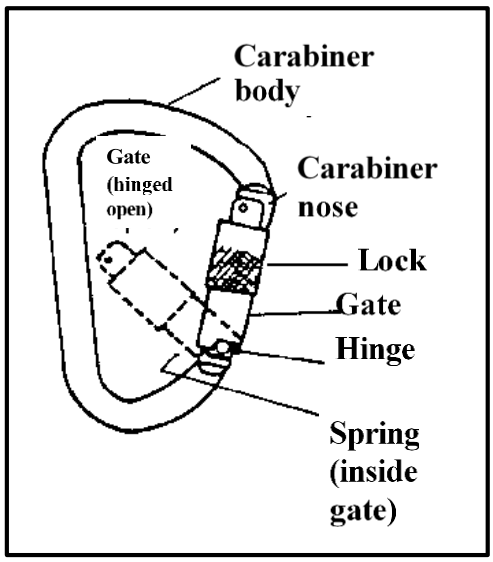


NOTES: Metric Units

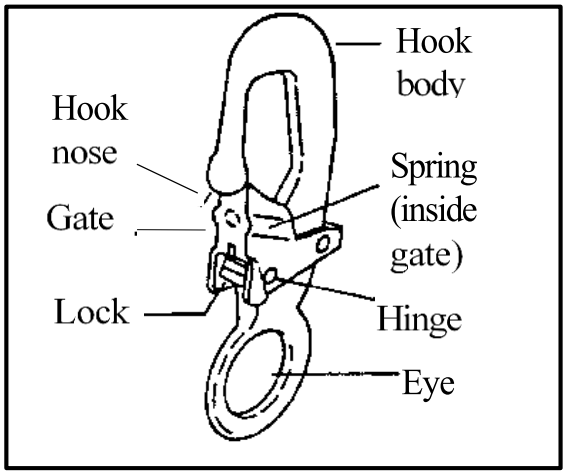
1. Case A indicates maximum pipe span for the tie-off at any location along pipes: Case B and C indicate allowable tie-off distance from a support for 3M and 6M pipe span respectively
2. This guidance is for the tie-off to laid-on-supports piping.
3. Tie-off is not allowed:
   - to pipe sections with valves, flanges and other fittings.
   - to pipes where corrosion is suspected.
   - to insulated pipes.
   - to fiberglass pipes.
4. To distinguish carbon steel from stainless steel pipe use a magnet, carbon steel is magnetic.
5. To distinguish fiberglass from metal pipe, gently strike pipe with a small hammer. Fiberglass pipe will produce a dull sound that does not radiate along pipe.
6. If in doubt - contact responsible engineer.

Figure 1. Connectors and lifelines

1A. Carabiner, self-locking



1B. Snap hook, self-locking



Continued

Figure 2. Connectors and lifelines, continued

1C. Self-retracting lifeline (SRL)

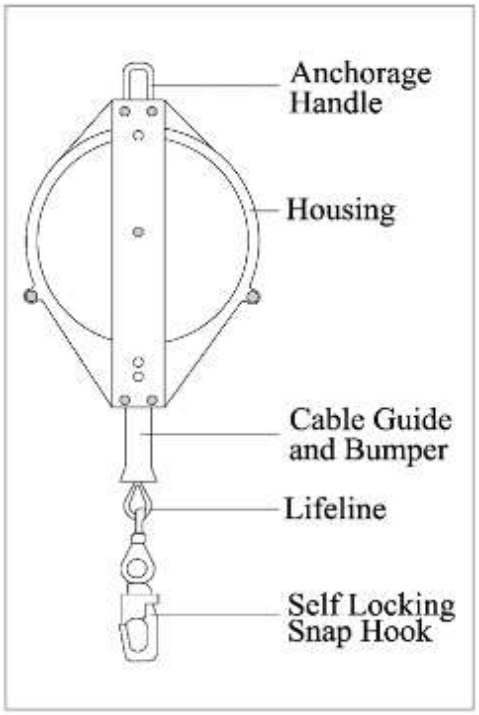


Figure 3. Examples of typical full-body harnesses

Figure 2A

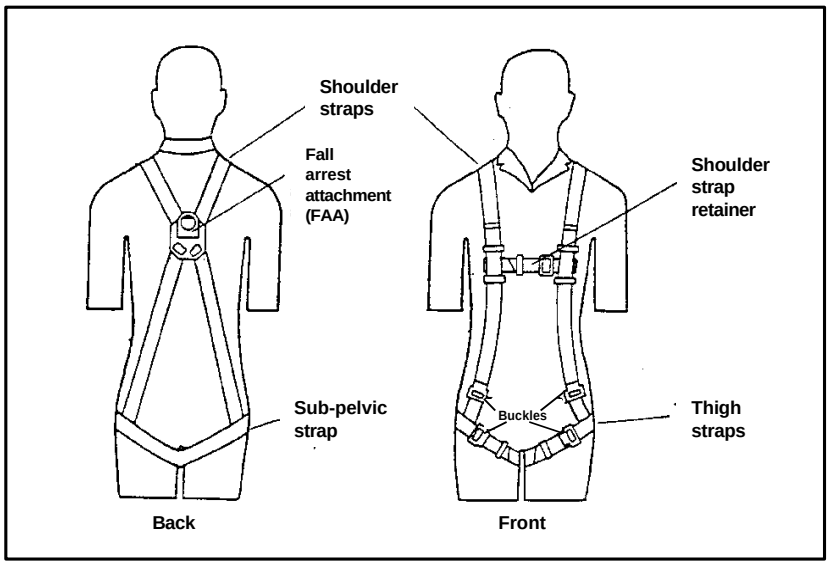
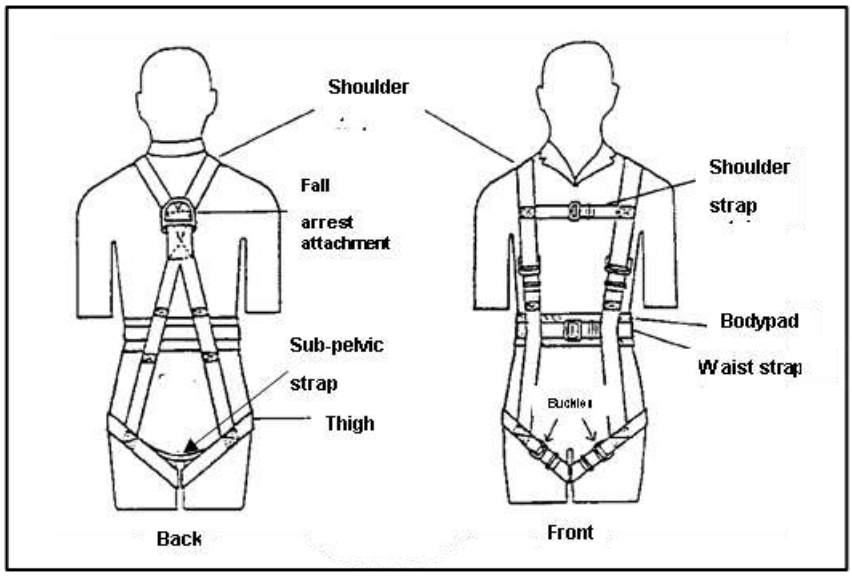


Figure 4. Examples of typical full-body harnesses, continued

Figure 2B



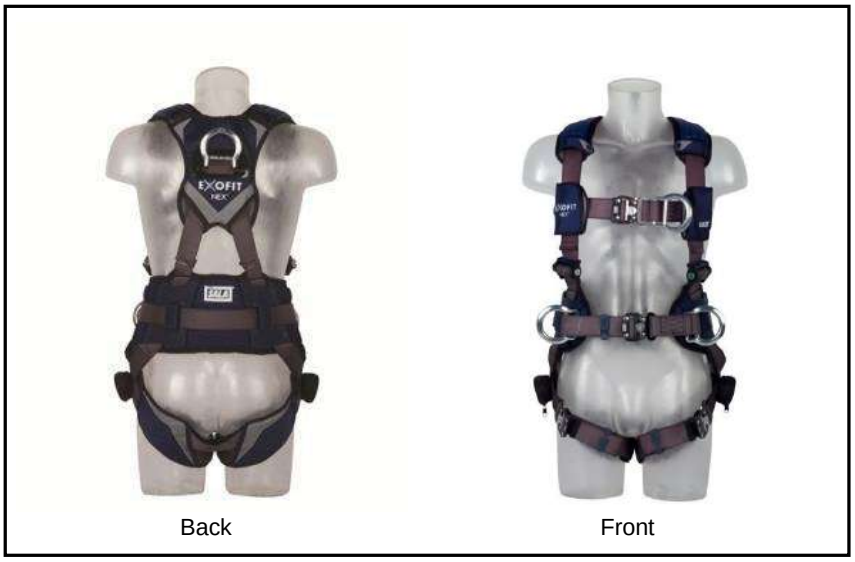


Figure 5. Fall clearance consideration

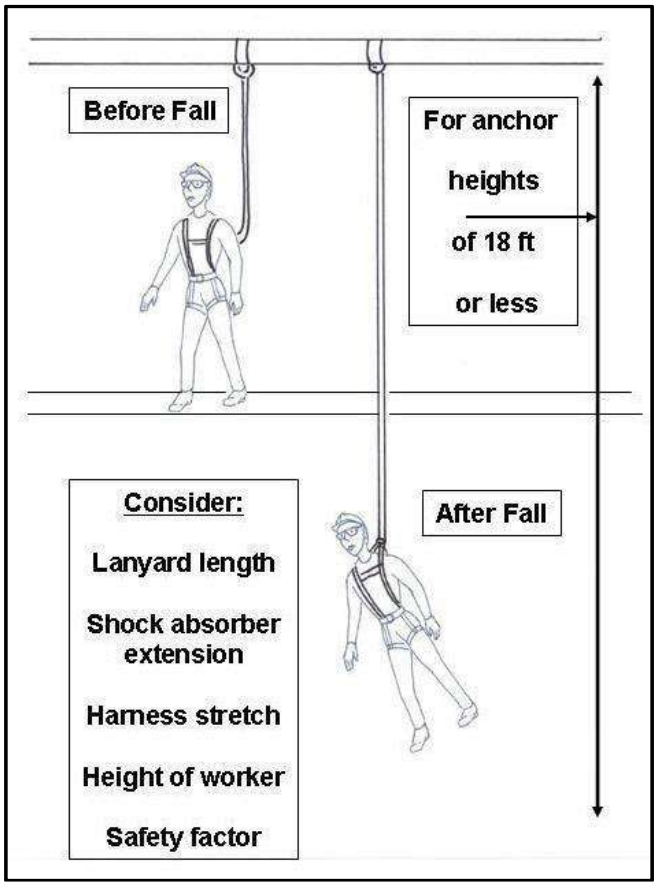
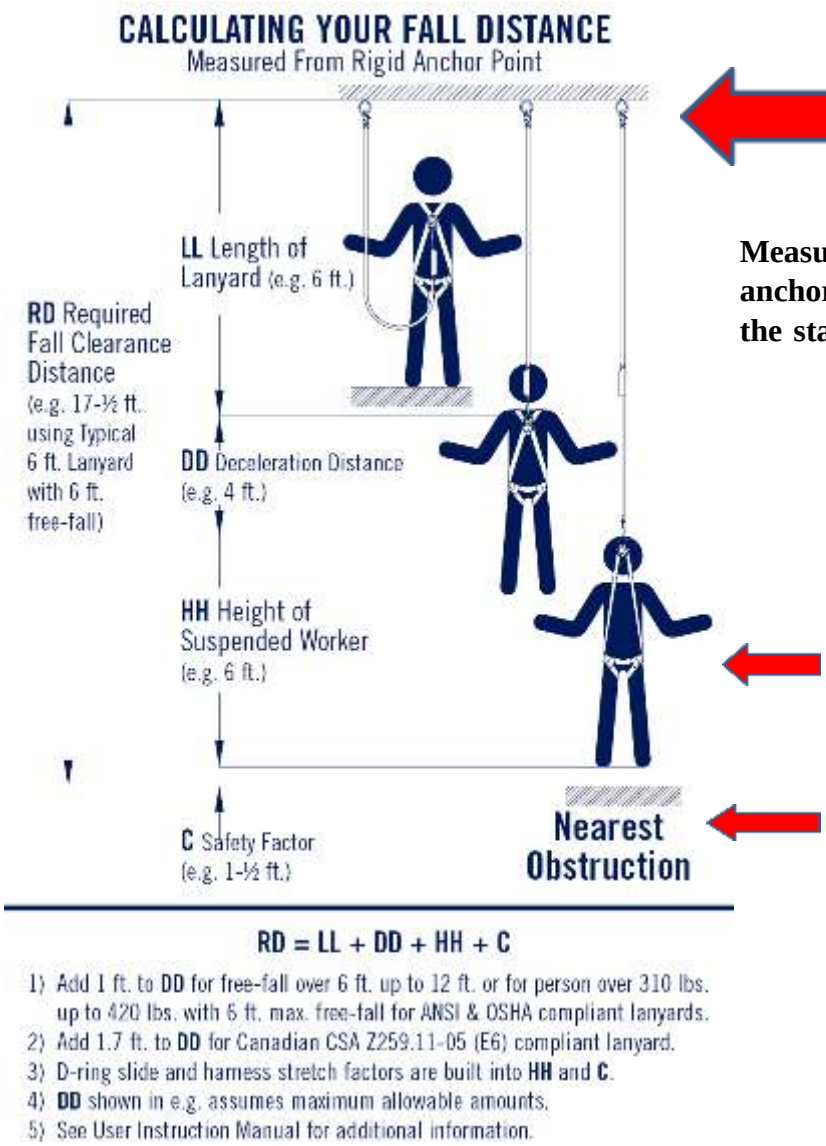


Figure 6. Fall clearance Calculation

This formula works regardless of

where anchorage point is located- overhead, foot level, waist level.



Measurement uses anchorage point as the starting point

Deceleration is maximum amount per lanyard

D ring slide and harness stretch included in Height of worker and safety factor

Figure 7. Swing path considerations

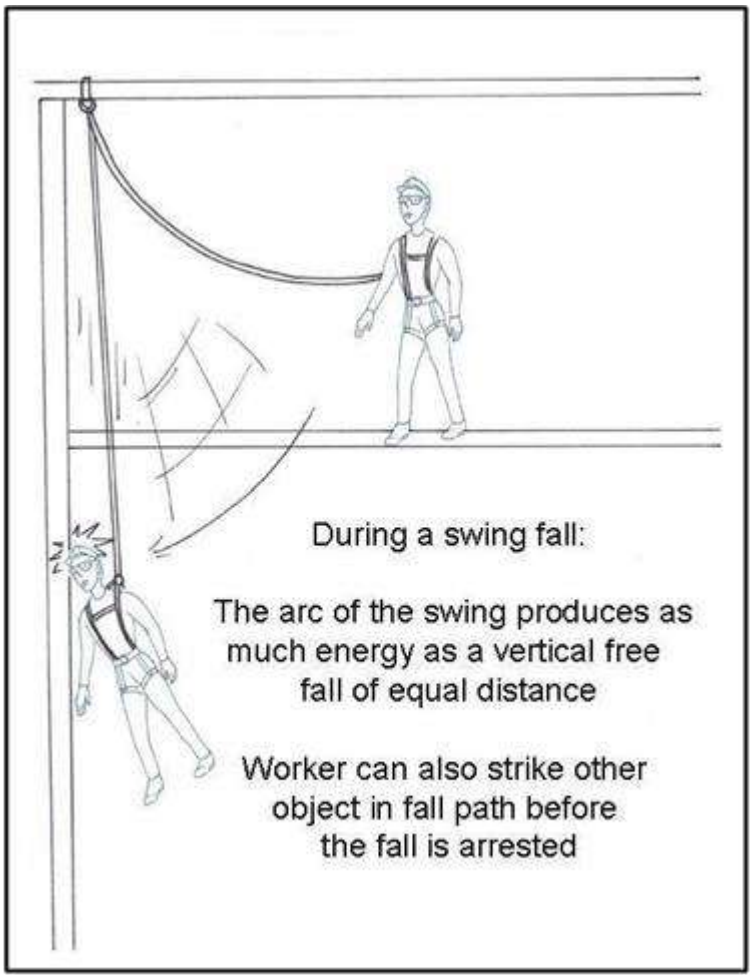
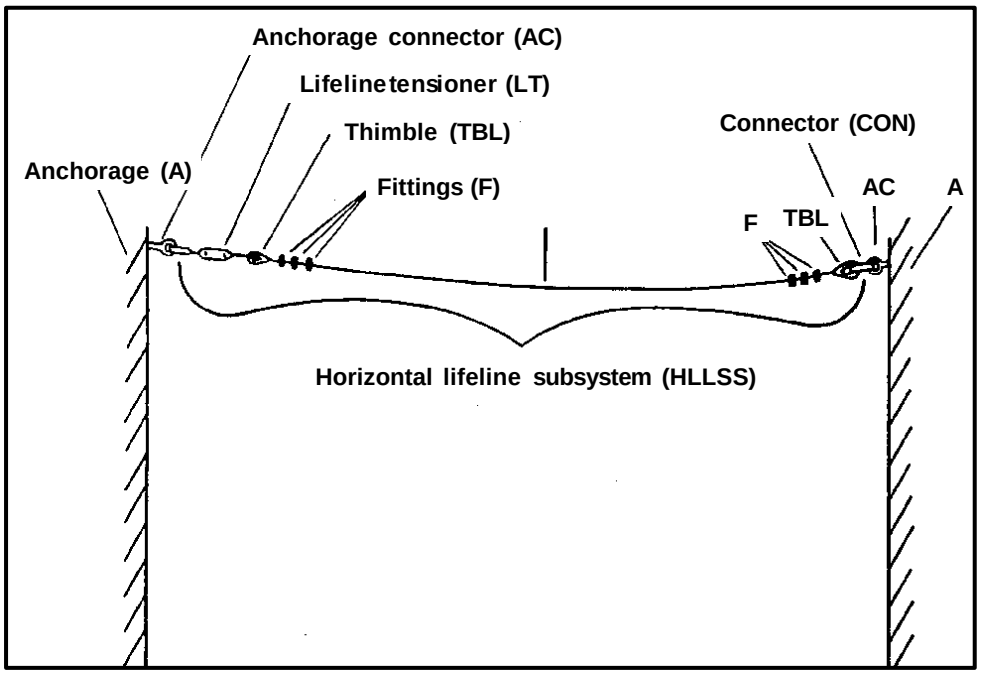


Figure 8. An example of a typical horizontal lifeline subsystem



EXPLANATORY NOTES

Short definitions**:**

A **competent person** must be able to identify hazards within the construction jobsite **and** solve those issues or take action to stop the work until the issues can be resolved.

A **qualified person** has the knowledge to design **and** supervise the installation of the protective fall protection systems to be used on that jobsite.

The phrases "competent person" and "qualified person" are often used in the safety industry, but confusion persists as to how the two relate to, and differ from, one another.

Compliance with OSHA standards is essential to keeping employees safe in the workplace. While most businesses strive to be OSHA compliant, some run into difficulties in doing so due to their lack of understanding the administration's standards. Competent and qualified persons are one such area where confusion continues to persist, as OSHA's regulations fail to get into the nitty-gritty of how each role operates and interacts with the other outside of their accepted definitions. While the competent person designation is also required under OSHA for silica and confined space applications in construction, the confusion is really between competent and qualified persons for fall protection.

Here we examine the differences and similarities between competent and qualified persons to help clear up some of the confusion that persists in their roles in the workplace.

How Does OSHA Define a Competent Person and a Qualified Person?

As defined by OSHA, a **competent person** is someone who "is ***capable of identifying existing and predictable hazards*** in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has ***authorization to take prompt corrective measures to eliminate them*** [29 CFR 1926.32(f)]."

A ***qualified person***, on the other hand, is someone who "by possession of a ***recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience***, has successfully demonstrated his ***ability to solve or resolve problems relating to the subject matter***, the work, or the project [29 CFR 1926.32(m)]."

While the above definitions seem straightforward enough, their vagueness can become problematic in real life application.

Who is a Competent Person?

The term "competent person" is used in many Occupational Safety and Health Administration (OSHA) standards and documents. By way of training and/or experience, a competent person is knowledgeable of applicable standards and is capable of identifying workplace hazards relating to the specific operation and has the authority to correct them and stop work if

necessary. Some standards add additional specific requirements, which must be met by the competent person. Competency is demonstrated, not certified.

- ***Competent persons must be able to recognize hazards but also be able to mitigate them.***

- ***One worksite can have multiple competent people or one person who is competent in multiple areas.***

- ***Competent persons are not required to have a recognized degree, certificate, or extensive experience.***

However, a lack of a degree or certification does not mean that competent persons completely forego formal training. Competent person training classes allow employers to easily designate employees into the role, and individuals working in construction or general industry may want to consider taking classes in the areas of:

- Silica

- Fall protection

- Confined spaces

- Fall protection for tools

Competent person status is not conferred just by completing the training classes. ***Employers must give their employees the authority to take corrective measures and then declare them to be a competent person***. Without this authority, an individual who takes the competent person classes possesses the knowledge, but not the necessary authorization, to be a competent person.

Even after someone is given the authority to correct workplace hazards, they are not qualified to design actual solutions to fix them. Take fall protection, for example. ***A competent person knows that an employee not tying off to a lifeline is a safety hazard and has the authority to stop work until the person does so. They cannot, however, install the lifelines workers need to tie off to because only a qualified person can do this.***

Who is a Qualified Person?

A qualified person is one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, the work, or the project.

Example: Residential Construction

A competent person must be able to identify hazards within the construction jobsite and solve those issues or take action to stop the work until the issues can be resolved.

A qualified person has the knowledge to design and supervise the installation of the protective fall protection systems to be used on that jobsite.

It is possible for the competent person to also perform as the qualified person, but they must meet the criteria in both definitions to perform as both.

These definitions provide that a competent person must have the authority to take prompt measures to eliminate hazards at the work site and have the experience to be capable of identifying these hazards.

Under ANSI/ASSE, ***competent persons are responsible for the supervision, implementation, and monitoring of fall protection programs and, for this reason, must undergo training on:***
• Applicable fall protection standards and regulations;
• Surveying fall hazards;
• All equipment and practices applicable to the scope of work;
• Inspecting fall protection equipment components and systems;
• Assessing fall protection systems and components to determine whether they are safe for use; and
• Implementing fall protection and rescue procedures (ANSI/ASSE Z359.2-2017, §5.3).

Why Does This All Matter?

As the fall protection example above shows, **competent and qualified persons have distinct roles in the workplace.** While the ***competent person ensures the safe use of systems***, the ***qualified person designs or installs engineered systems***. The **appointment of qualified and competent persons is the responsibility of employers, so it is crucial that they understand the roles and when each is needed**. By better understanding the key differences and similarities between competent and qualified persons, employers can ensure that their worksite is safe and OSHA compliant.

A qualified person has the knowledge and expertise to calculate end loads, fall clearances, and determine the required quantity and location of intermediate and end-posts, and install or supervise the installation of the system.

A competent person is not qualified to design or install a lifeline.

Employers are responsible for designating a competent person at each jobsite

One party is responsible for design and installation (qualified person) while the other is charged with enforcing the lifeline's safe use (competent person).

ACCOUNTABILITY VS RESPONSIBILITY

The main **difference between responsibility and accountability** is that ***responsibility can be shared while accountability cannot***. Being **accountable** not only means being **responsible** for something but also ultimately being answerable for your actions. ... **Responsibility** can be before and/or after a task

Accountability eliminates the time and effort you spend on distracting activities and other unproductive behavior. When you make people **accountable** for their actions, you're effectively teaching them to value their work. When done right, **accountability** can increase your team members' skills and confidence.

An individual has accountability for acts and behaviors