



Safe Work Procedure

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Page 1 of 45

Working at height

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Contents

1	Purpose	5
2	Scope and Validity	5
3	Definitions.....	5
4	Responsibilities	7
4.1	COMPANY's Project Construction Manager	7
4.2	COMPANY's Site Manager	7
4.3	COMPANY's Issuer of the Work Permit.....	7
4.4	COMPANY's Construction/Commissioning Manager, Superintendents and Supervisors	7
4.5	COMPANY's Site HSE Manager.....	7
4.6	CONTRACTOR	7
4.7	CONTRACTOR's Construction & Commissioning Management personnel.....	7
4.8	CONTRACTOR's HSE Manager and Safety Officers.....	8
4.9	All Personnel	8
5	Risk Management	8
5.1	Risk Assessment and Job Safety Analysis	8
5.2	Permit to Work System	9
6	General preventive Measures	9
6.1	Fall Prevention	10
6.2	Fall Arrest Systems	11
6.3	Personal Protective Equipment against Fall from a Height	11
6.3.1	Justification for the Use of PPE against Fall from a Height	11
6.3.2	Components and Personal Fall Arrest Systems	12
6.3.2.1	Components.....	12
6.3.2.2	Personal Fall Arrest Systems.....	13
6.3.3	Special Requirements	15
6.3.3.1	Body Harnesses	15
6.3.3.2	Lanyards.....	15
6.3.3.3	Anchor Points.....	16
6.3.3.4	Lifelines	17
6.3.4	Use of Personal Protective Equipment against Fall from a Height	18
6.3.5	Checks, Inspections and Maintenance	18

6.3.6	Storage and Cleaning	19
6.3.7	Rescue	19
6.4	Protection against Falling Material	20
6.5	Protection against Electrical Hazards	20
6.6	Personal and Individual Measures	21
6.6.1	Medical Examination and Fitness	21
6.6.2	Training and Instruction	21
6.7	Reporting and Investigation	22
7	Special Requirements	22
7.1	Portable Ladders	22
7.1.1	Restrictions for Application	22
7.1.2	Technical Requirements	22
7.1.3	Use of Ladders	22
7.1.4	Checks and Inspection of Ladders	24
7.2	Scaffolds	25
7.2.1	General Requirements	25
7.2.2	Use of Scaffolds	25
7.2.3	Special Requirements for Mobile Scaffolds	26
7.3	Mobile Elevating Work Platforms / Aerial Lifts	26
7.3.1	General Requirements	26
7.3.2	Use of MEWPs / Aerial Lifts	26
7.3.3	Checks and inspection of MEWPs / Aerial Lifts	27
7.4	Work Baskets	27
7.4.1	Suspended Work Baskets	27
7.4.1.1	Crane	27
7.4.1.2	Rigging	28
7.4.1.3	Work Basket	28
7.4.1.4	Use of Work Baskets	28
7.4.2	Vehicle-mounted Work Baskets	28
7.4.2.1	Vehicle	28
7.4.2.2	Work Basket	28
7.4.2.3	Use of Work Basket	29
7.5	Boatswain Chairs	29
7.6	Roof Work	29
7.6.1	Protection against Falling from the Edge	30
7.6.1.1	Flat Roofs	30

7.6.1.2	Pitched Roofs	30
7.6.2	Protection against Falling inside or through Openings	30
7.6.3	Protection against Falling through a fragile Roof Material	30
7.6.4	Working on fragile Materials.....	31
7.6.5	Working near fragile Material	31
7.6.6	Access.....	31
7.6.7	Weather Hazards	31
7.7	Steel Erection	32
7.7.1	Structural Steel Erection	32
7.7.2	Erection of Gratings	32
7.7.3	Removal of Gratings	33
7.7.3.1	Laying Tarpaulin over grating	34
7.7.4	Incomplete Steel Structures	35
7.7.5	Walking and Working Platforms	35
8	Documentation and Records.....	35
8.1	COMPANY's Documents	35
9	Revisions.....	36
10	Distribution	36
ATTACHMENT 1: CHECKLIST FOR FALL ARREST EQUIPMENT INSPECTION		37
ATTACHMENT 2: USER INSPECTION OF SCAFFOLDS		38
ATTACHMENT 3: SAFE USE OF PERSONAL PROTECTIVE EQUIPMENT AGAINST FALL FROM A HEIGHT		40
ATTACHMENT 4: MEWP/AERIAL LIFT DAILY PRE-USE INSPECTION CHECKLIST		41
ATTACHMENT 5: Pre-Tarpaulin Laying Checklist		42
ATTACHMENT 6 : - Post-Tarpaulin Laying Checklist		43
ATTACHMENT 7: Daily Inspection Checklists		44

1 Purpose

This Safe Work Procedure defines responsibilities and workflow before and during the execution of construction and commissioning activities on sites under COMPANY's responsibility.

The purpose of this Safe Work Procedure is to set safety requirements for working at height activities to ensure they are safely planned and executed to prevent any injuries.

2 Scope and Validity

This Safe Work Procedure applies to any activities carried out during construction, pre-/commissioning and start-up phases as well as for repair work and small-scale modifications.

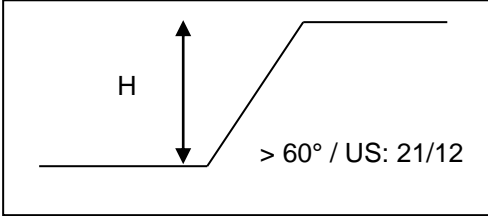
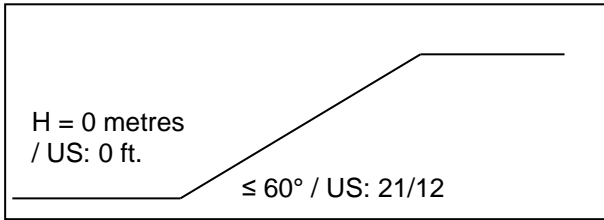
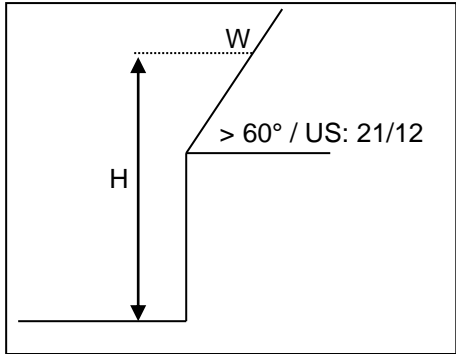
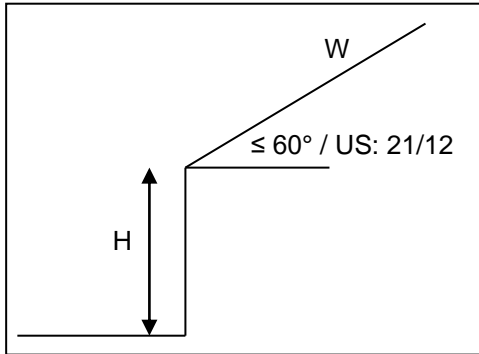
It does not apply to the erection, disassembling and modifying of scaffolds (refer to &A?-W-SC 9610 "Scaffolding - Erection, Disassembling and Modifying").

This Safe Work Procedure also applies to all projects where COMPANY has an overall responsibility for construction and commissioning.

In addition, this Safe Work Procedure also applies to all prefabrication and sub construction areas (e.g. Package Units) in COMPANY's area of responsibility.

3 Definitions

Competent Person	A person who is recognised as having acquired through training, qualification or experience, or a combination of them, the knowledge and skills to carry out and recognize hazards associated with a particular task, and has the ability to mitigate those hazards.
Elevated work	Synonym of " Working at height" (see below)
Man-Day	A man-day is equal the amount of work that one worker provides during one shift (usually 8 to 10 hours), e.g. two workers working for 4 hours (1/2 shift) equals one man-day.
PPE	Personal Protective Equipment
Working at height	<p>'Working at height' means work in any place where, if there were no precautions in place, a person could fall a distance liable to cause personal injury.</p> <p>Any work activities carried out at workplaces with a possible height of fall above 2 m are considered as 'working at height' irrespective of a potential personal injury.</p> <p>Activities at workplaces above water are considered as 'working at height' irrespective of the height of fall.</p>

<p>Height of Fall</p>	<p>In general, sloped surfaces exceeding an angle of 60 degrees must be considered as vertical.</p> <p><i>W: Workplace location H: Height of fall</i></p> <div data-bbox="520 367 1010 582">  </div> <div data-bbox="520 604 1126 822">  </div> <div data-bbox="529 873 986 1225">  </div> <div data-bbox="529 1249 1010 1601">  </div>
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In the following referenced document numbers with the originator code "&A?" in this project always refer to project documents with entity originator code "&AA".

4 Responsibilities

4.1 COMPANY's Project Construction Manager

COMPANY's Project Construction Manager is responsible for the implementation and consideration of this Safe Work Procedure during the planning, tendering and execution of the project. COMPANY's Project Discipline Manager Construction must evaluate the necessity of the implementation of this Safe Work Procedure.

4.2 COMPANY's Site Manager

COMPANY's Site Manager is responsible for the implementation and inspection of the compliance with this Safe Work Procedure on site. He is responsible for the implementation of the prescribed preventive measures during carried out elevated work.

4.3 COMPANY's Issuer of the Work Permit

The Issuer is responsible for the time schedule of relevant activities work, the coordination with parallel work, the definition of the defined measures in the work permit and the review of CONTRACTOR's risk assessment, Job Safety Analysis, work procedures or other relevant documents regarding working at height.

4.4 COMPANY's Construction/Commissioning Manager, Superintendents and Supervisors

COMPANY's Construction/Commissioning Manager, Superintendents and Supervisors are responsible for the inspection of the compliance with this Safe Work Procedure on site in their scope of work.

4.5 COMPANY's Site HSE Manager

COMPANY's Site HSE Manager has the responsibility to support COMPANY's Site Manager to:

- identify workplaces/tasks that are regarded as elevated concerning this procedure
- ensure risk assessments / Job Safety Analyses for working at height are available
- select adequate fall prevention and protection equipment for COMPANY employees
- ensure people entitled to use personal fall protection equipment are trained
- ensure fall protection equipment is in good condition

COMPANY's Site HSE Manager has the duty to monitor the adherence to the following regulations and to monitor personnel carrying out elevated work. He is responsible to support COMPANY's Site Manager and all supervisors during the implementation of the following regulations.

4.6 CONTRACTOR

CONTRACTOR carrying out elevated work must fulfil the following requirements:

- CONTRACTOR must organise the activities acc. to this Safe Work Procedure.
- CONTRACTOR must adhere to local requirements regarding working at height.
- CONTRACTOR must submit the following documents (incl. updates) to COMPANY on request before beginning elevated work.

These required documents are:

- CONTRACTOR's medical fitness certificates acc. to chapter 6.6.1
- CONTRACTOR's training certificates acc. to chapter 6.6.2
- CONTRACTOR's risk assessment acc. to chapter 5.1
- CONTRACTOR's work procedures for elevated work
- CONTRACTOR's rescue procedure (the procedure must fulfil the requirements of chapter 6.3.7)
 - CONTRACTOR is responsible for its SUB-CONTRACTORS and must transfer the requirements of this Safe Work Procedure to its SUB-CONTRACTORS.

4.7 CONTRACTOR's Construction & Commissioning Management personnel

CONTRACTOR's Construction & Commissioning Management personnel are responsible for the inspection of the compliance with this Safe Work Procedure on site in their scope of work.

4.8 CONTRACTOR's HSE Manager and Safety Officers

CONTRACTOR's HSE Manager has the responsibility to support CONTRACTOR's site manager and supervisors to:

- identify workplaces/tasks that are regarded as elevated concerning this procedure
- prepare risk assessments / Job Safety Analyses for working at height
- select adequate fall prevention and protection equipment
- ensure people entitled to use personal fall protection equipment are trained
- ensure fall protection equipment is in good condition

CONTRACTOR's HSE Manager and Safety Officers have the duty to monitor personnel during working at height. They must check defined measures and support the supervisors. They must report problems regarding to working at height to COMPANY's Site HSE Manager immediately.

4.9 All Personnel

All personnel (including COMPANY's, CONTRACTOR's and all SUB-CONTRACTORs') have the responsibility to attend trainings and instructions on site. Working at height must be a topic of the introduction training.

All personnel must obey stipulated measures and stop immediately any at risk behaviour of their co-workers either by themselves or by notifying supervision personnel.

5 Risk Management

5.1 Risk Assessment and Job Safety Analysis

When planning working at height activities, following hazards must be evaluated and addressed as a minimum:

- Design of existing structures and materials to be worked on and design and strength / stability of the access equipment used
- Distance of fall
- Roofing structure and its capacity to withstand weight of a person or a load of material or adverse weather conditions
- Sloping of the area where work at height must be carried out
- Openings that may be difficult to identify, or uncovered, unguarded or not fitted with toeboards
- Deterioration of materials (breaking when worker puts weight on it, or breaking off and falling to hit workers or structures at lower levels or even causing collapse)
- Unprotected edges of surfaces with the risk of fall or falling object (e.g. from elevated walkways, scaffolding and access platforms, etc.)
- Unstable, unsecured or poorly maintained access equipment (e.g. scaffolding, towers, platforms and ladders) that can lead to collapse or topple or can suffer damage from rust, physical damage, broken or damaged threads and fittings and platform boards that rot through the timber
- Weather like rain or freezing conditions that can increase the risk of slipping, high wind that can make equipment unstable or blow loose materials off and cold conditions that can cause loss of manual dexterity
- Falling Materials such as loose material, waste material or equipment and tools which are dropped

Before start of the construction and commissioning activities COMPANY and CONTRACTORs must carry out documented risk assessments or Job Safety Analyses (JSA) for their activities considered as "working at height" at and identify and define protective measures.

Herein the protective measures described in chapters 6 and 7 must be considered and implemented as a minimum.

The risk assessment and the JSA are a precondition for issuing COMPANY's work permit (acc. to &A?-W-SC 9601 "Permit to Work System").

For further details on Risk Assessment and JSA refer to HSE Program Site (&A? W-PQ 9601).

For any new activity or for any significant change(s) to an existing activity that involves a fall hazard and/or fall prevention measures, the risk assessment / JSA / (method statement) must be carried out or revised and the outcome must be communicated to workers prior the work is undertaken.

5.2 Permit to Work System

Working at height is considered as a 'high risk activity' and therefore requires a "special work permit" by COMPANY. Special permits will only be issued by COMPANY if the tasks to be permitted are evaluated by CONTRACTOR specifically for this job in a Job Safety Analysis (JSA).

As an exception the following activities are not considered as 'high risk activities' since these activities are usually covered by standard regulations and procedures without the need to engineer and install special and/or individually adjusted fall protection measures:

- standard scaffolding work
- work on released scaffolds, mobile scaffolds and platforms of steel structures
- work in elevated mobile work platforms

Typical high-risk activities are:

- steel erection
- installation of gratings
- removal of gratings
- working on roofs (e.g. roof panel installation)
- working in personal carriers / man baskets

For details see "Job Safety Analysis" (&A? W-QR 9604) and "Permit to Work System" (&A? W-SC 9601).

6 General preventive Measures

Working at height should be avoided where it is reasonably practicable to do so. Therefore equipment, material etc. should be pre-assembled on the ground level whenever possible and reasonably practicable. Preparation work such as sorting, unpacking or necessary mechanical preparation should also be performed in areas without the hazard of falling from height.

In general, all workplaces considered as "working at height" must be eliminated or controlled.

In general, all openings of at least 0.3m width must be considered as a potential fall hazard. Note: Smaller openings must be considered as tripping hazards and therefore should be covered or barricaded.

The following hierarchy of protective measures against falling from height must be considered during risk assessments and when planning any work at height:

1. Fall prevention (acc. to chapter 6.1)
2. Fall arrest systems (acc. to chapter 6.2)
3. Personal protective equipment against fall from a height (acc. to chapter 6.3)

Additionally, the provision of suitable work equipment, such as mobile platforms or mobile scaffolds can lower the risk of falling from a height.

Fall prevention methods must be used over fall arrest systems. Only if due to the nature of the work or its duration the application of fall prevention and fall arrest systems, is reasonably not practicable, personal protective equipment against fall from a height must be provided and used by personnel. This regulation is described in detail as follows.

All equipment must be installed, erected, applied, stored, maintained and inspected according to manufacturers' instructions and to local legislation.

6.1 Fall Prevention

Fall prevention measures must comply with the following requirements:

- **Barricading:**

Barricading is an appropriate means of fall prevention if no work within a distance of 2 m / 6 ft. to the edges is necessary. In this case the work area could be barricaded in a minimum distance of 2 m / 6 ft. to the relevant edges. Acceptable means of barricading are:

- ropes
- chains

Warning tape or similar material must not be used for this purpose. Additionally, a sign must be fixed near the barricade showing that the access to the hazardous area behind the barricade is not allowed.

- **Guardrails**

A guardrail must consist of a top rail, mid rail and if falling material can hit persons or equipment a toe-board. The top rail must be at least 1 m above surface.

Guardrails must be of solid material, e.g. scaffolding material, that it can carry the load of a falling person (300 N (acc. to European standards)).

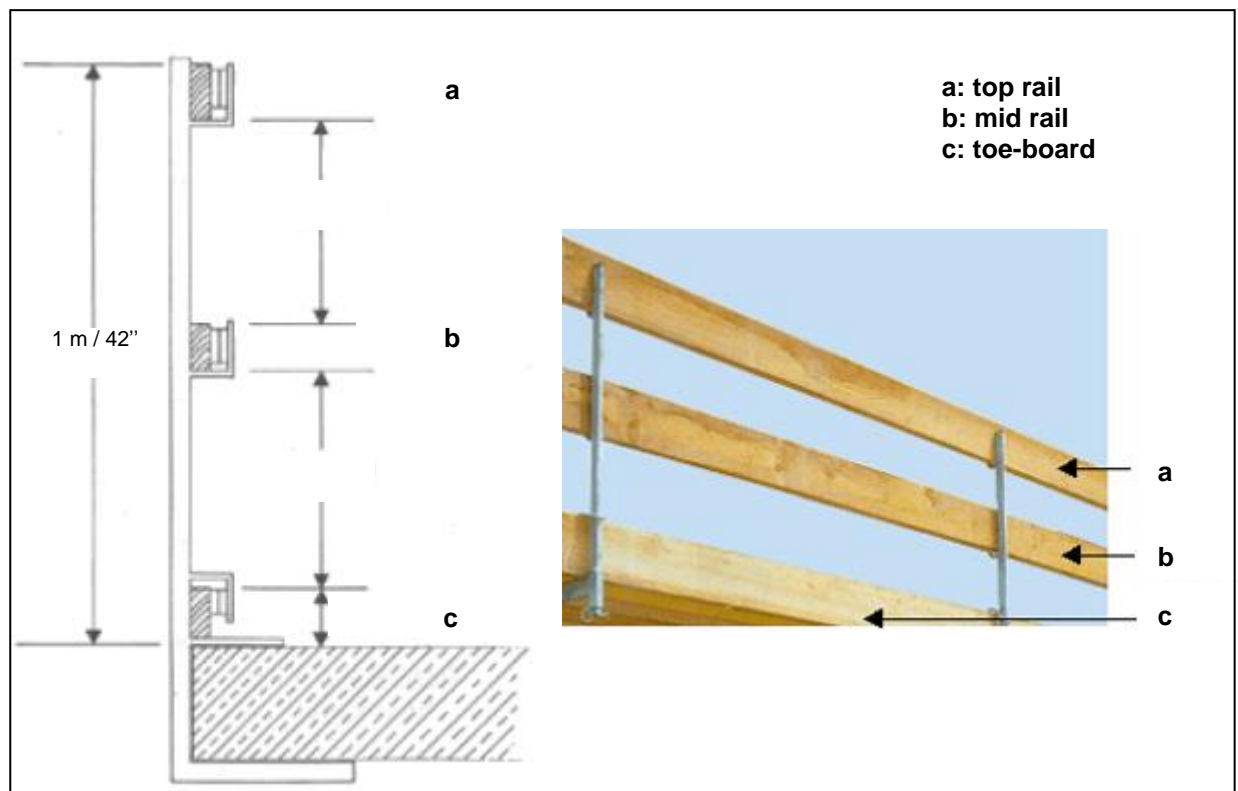


Figure 2: Guardrail (exemplary design)

- **Coverings**

Coverings are appropriate means to protect persons against falling into openings or through fragile materials (e.g. on a roof). Covers must be securely fixed to prevent accidental movement and to be free from tripping hazards as far as possible. The material for covering openings must be stable, antiskid, weatherproof and suitable for the opening and must be able to carry the expected load.

6.2 Fall Arrest Systems

Fall arrest systems must comply with the following requirements:

- **Service Scaffolds**

A service scaffold is erected for the purpose to catch falling persons (e.g. around a building with ongoing roof work). The relevant scaffold platforms supposed to catch falling persons must not be used as working platforms and no material must be stored on them. If persons working on a pitched roof or on a similar sloped surface must be caught by the service scaffold the scaffold must be equipped with special protective devices (i.e. higher guardrails, safety netting in the guardrail) to avoid a person falling through the guardrail.

- **Safety nets**

Safety nets must be installed properly by competent persons attached securely and must withstand a person falling onto them.

Safety nets for the purpose to catch persons falling from a roof inside a building must be installed as close as possible below the surface involved (e.g. roof) to minimise the distance of falling.

Safety nets for the purpose to catch persons falling from the edge of a roof or similar surface must be installed as close as possible to the edge to avoid that persons will fall out of the safety net.

- **Special Fall Arrest Equipment**

Special fall arrest devices are available for special fields of application, e.g. edge protection for pitched roofs.

6.3 Personal Protective Equipment against Fall from a Height

6.3.1 Justification for the Use of PPE against Fall from a Height

The decision to provide and use personal protective equipment against fall from a height must be actively supported by (1) an evaluation of the risks of using the PPEs versus the risks for installing safer means of preventing or arresting a fall and (2) an evaluation of the practical feasibility.

The "Risk" evaluation shall encompass as a minimum:

- The number of personnel being exposed to risks and duration of risk exposure
- consideration of risks directly related to the implementation of these safety measures (e.g. erecting and dismantling of guardrails, scaffolds, etc.)

The "Practical Feasibility" evaluation shall encompass as a minimum:

- The review of available technical alternatives to provide safe working and environmental conditions for the implementation or use of the PPEs (e.g. sufficient space required for use of MEWPs or placement of scaffolds, provision of safe working environment inside a concrete cooling tower during erection...)

- The estimate of the time necessary to implement or install the technical alternatives compared to the time necessary to complete the work. The technical alternative having the lower impact shall be preferred.

Example:

- Alternative A: safe working platform (e.g. scaffolding or similar means which eliminate the fall hazard or provide fall protection with guardrails)
- Alternative B: only some working platforms including the use of PPE against falling from height
- If it is technically possible to provide alternative A and if the total duration of installing these safe platforms (which also will include PPE against falling from height) is shorter than the duration of doing the whole work with PPE, then these safe platforms must be installed.

6.3.2 Components and Personal Fall Arrest Systems

6.3.2.1 Components

The components to be applied with the different fall arrest system are:

- (1) Full Body harness
- (2) Connectors (D-rings, carabiners, snap hooks)
- (3) Anchor point
- (4) Lifeline
- (5) Flexible anchor line
- (6) Lanyard*
- (7) Energy absorber*
- (8) Guided type fall arrester
- (9) Retractable type fall arresters*

*Retractable type fall arresters are devices which contain the two functions of the lanyard and the energy absorber.

Components must comply with the local legislation and any of the following state-of-the-art standards and COMPANY's requirements. Any deviation from the following list of standards requires COMPANY's approval:

EN 341	Personal falls protection equipment – DESCENDER DEVICES FOR RESCUE
EN 353-1	Personal falls protection equipment – PART 1: GUIDED TYPE FALL ARRESTERS INCLUDING A RIGID ANCHOR LINE
EN 353-2	Personal falls protection equipment - PART 2: GUIDED TYPE FALL ARRESTERS INCLUDING A FLEXIBLE ANCHOR LINE
EN 354	Personal Protective Equipment Against Falls from a Height - LANYARDS
EN 355	Personal Protective Equipment Against Falls from a Height - ENERGY ABSORBERS
EN 358	Personal Protective Equipment for work positioning and prevention of falls from a height - BELTS and LANYARDS FOR WORK POSITIONING OR RESTRAINT
EN 360	Personal Protective Equipment Against Falls from a Height - RETRACTABLE TYPE FALL ARRESTERS
EN 361	Personal Protective Equipment Against Falls from a Height - FULL BODY HARNESSES

EN 362	Personal Protective Equipment Against Falls from a Height - CONNECTORS
EN 363	Personal Protective Equipment Against Falls from a Height - FALL ARREST SYSTEMS
EN 364	Personal Protective Equipment Against Falls from a Height - TEST METHODS
EN 365	Personal Protective Equipment Against Falls from a Height - GENERAL REQUIREMENTS FOR INSTRUCTIONS FOR USE, MAINTENANCE, PERIODIC EXAMINATION, REPAIR, MARKING AND PACKAGING
EN 795	Personal falls protection equipment - ANCHOR DEVICES


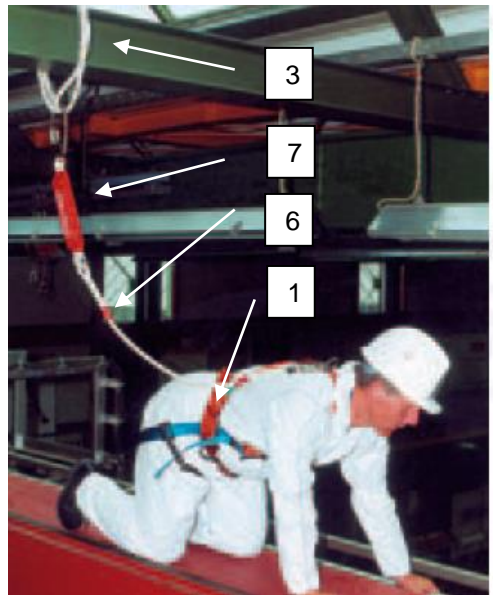
Table 1: Personal protective equipment against fall from a height - Standards

The combination of components of different standards is not allowed unless approved according to manufacturers' instructions.

Equipment must be obtained from recognised competent suppliers, and with certificates of conformity to locally applicable standards/regulations.

6.3.2.2 Personal Fall Arrest Systems

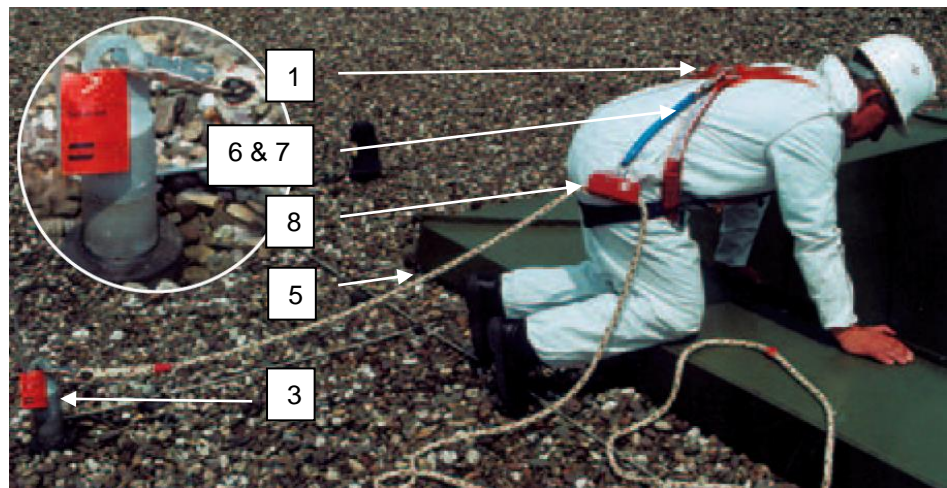
Depending on the results of the risk assessment, on the conditions of the job site and the possible anchor points one of the following systems must be defined and applied. Combinations of components of different systems are not allowed. The application of other systems requires COMPANY's approval.

SYSTEM A consists of		
<p>(1) Full Body harness</p> <p>(2) Connectors (D-rings, karabiners, snap hooks)</p> <p>(6) Lanyard</p> <p>(7) Energy absorber</p> <p>(3) Anchor point (alternatively: (4) Lifeline)</p>	 <p>Karabiner</p> <p>Snaphook</p> <p>2</p>	 <p>not marked: (2) Connectors</p>



SYSTEM B consists of

- (1) Full Body harness
- (2) Connectors (D-rings, karabiners, snap hooks)
- (6) Lanyard
- (7) Energy absorber
- (8) Guided type fall arrester
- (5) Flexible anchor line
- (3) Anchor point



not marked: (2) Connectors

SYSTEM C consists of

- (1) Full Body harness
- (2) Connectors (D-rings, karabiners, snap hooks)
- (6) Lanyard
- (7) Energy absorber
- (8) Guided type fall arrester
- (4) Lifeline



not marked: (2) Connectors

SYSTEM D consists of

- (1) Full Body harness
- (2) Connectors (D-rings, karabiners, snap hooks)
- (9) Retractable type fall arrester
- (3) Anchor point



3
9
1

not marked: (2) Connectors

Retractable type fall arresters are recommended where slack will hinder the task and/or where it is required to minimize the potential fall distance before restraint is achieved.

6.3.3 Special Requirements

6.3.3.1 Body Harnesses

Body belts must never be used in a personal fall arrest system.

Full body harnesses must be provided to each employee who needs it. If a harness is temporarily provided only, it must be adjusted to fit the individual each time.

6.3.3.2 Lanyards

If it is necessary - due to the construction of the anchorage device or the lifelines - to unhook (e.g. due to junctions in the lifeline) when being in a position from where the user would be at risk from a fall and afterwards to re-hook, a double lanyard must be provided and used.



Figure 7: Double lanyard

6.3.3.3 Anchor Points

Anchor points are:

- Columns
- Beams
- Large diameter pipes
- or special anchor devices

Anchor points can be fixed into the structure. Travelling anchorage (i.e. lifeline, see chapter 6.3.3.4) can be used where greater mobility is required. Small diameter pipes, instrument tubing and any parts of an electrical system must never be used as anchor points.

The anchor point(s) used for a personal fall arrest system must be independent of the supports that workers are standing on and be rated to 7.5 kN = 765 kg (acc. to European regulations) per employee attached, to be able to support the worker in the event of a fall.

Appropriate anchor points must be defined in risk assessments or Job Safety Analyses and be approved by a work permit. Prefabricated anchor points must be fully installed with the manufacturer's instructions.

It must be ensured that anchor points:

- are as close as practicable to being above the place of work to minimise swinging
- are as high above the point of work as possible to minimise safety line slack and the fall height
- prevent the lanyard becoming snagged or damaged
- allow the user to attach the lanyard before they move into a position from where they would be at risk of fall
- prevent the lanyard coming into contact with sharp edges or corners (if necessary, slings or sleeves must be used to prevent contact)
- are positioned to give a clear free-fall path and avoid contact with lower levels or obstacles in the fall path.

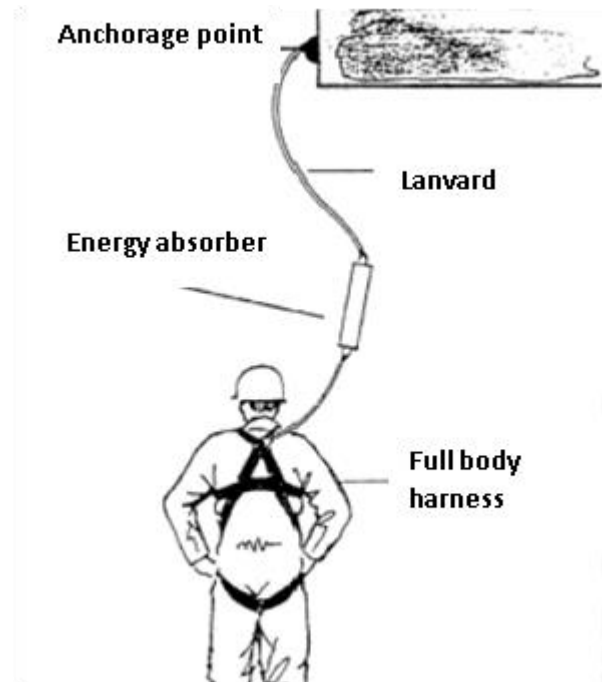


Figure 8: Preferred location of anchor points

When applying System A (usual system used on construction sites)

the necessary free-fall path and the required height of the anchor point above the next lower level must be calculated as shown below:

Note: The worst-case condition of anchor point at foot level is shown – the anchor point should be higher to minimise the free-fall height (and to improve ergonomics).

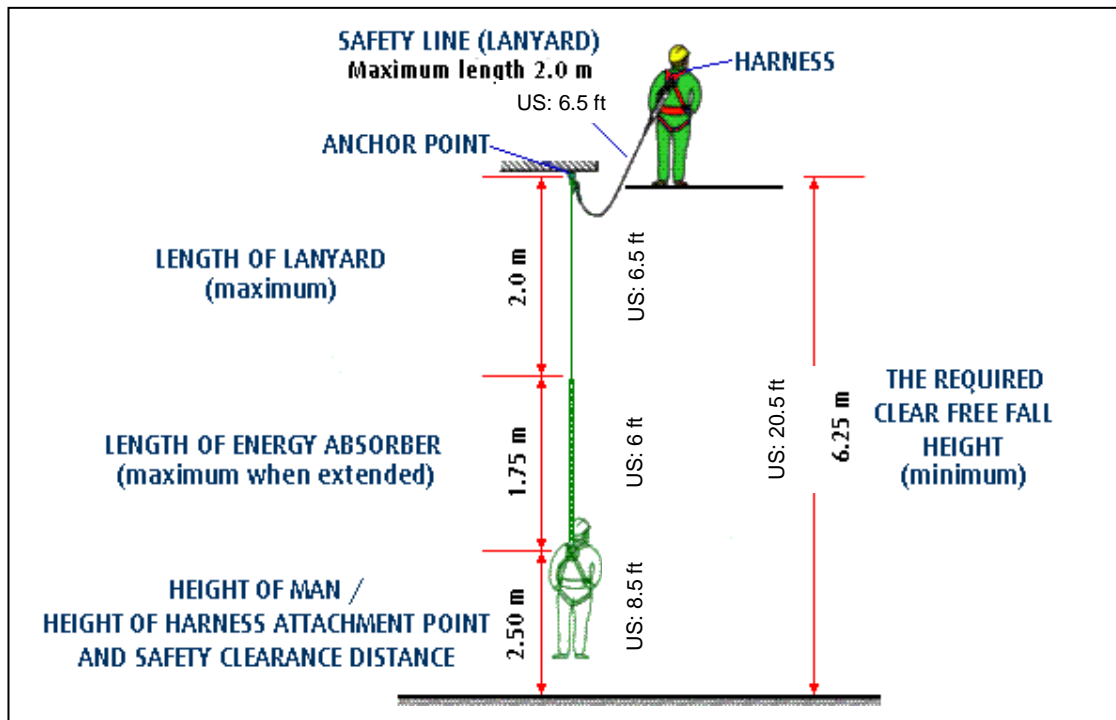


Figure 9: Clear free fall height

When applying System B or C

Similar and appropriate considerations and calculations must be made as for system A. The required clear free fall path must be defined based on

- manufacturer's information
- location of the anchor point or lifeline
- length of the lanyard

When applying System D

the clear fall path under the platform, beam etc. must be at least 3 m / 9 ft.

6.3.3.4 Lifelines

Preferably certified lifeline systems should be applied (installation and use according to manufacturer's instruction manual).

The minimum requirements for not certified lifelines systems are:

- Wire rope with diameter at least 8 mm (5/16")
- Wire rope with diameter at least 12 mm (1/2") if loose ends are fixed with clamps
- Synthetic fibre rope with similar bearing capacity
- Loose ends of the wire rope lifeline must be fixed with at least 4 clamps (see picture)

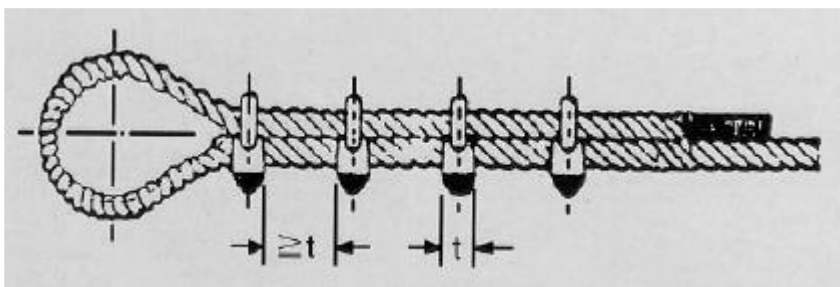


Figure 10: Fixing of ends of wire rope lifelines

Systems containing lifelines must be designed for the loads which they are expected to take. The line must be supported on anchorages that are sufficiently strong securely fixed to these anchorages and of a sufficient size and strength to support a falling person or persons.

Lifelines must only be engineered, installed and maintained by competent persons. Personal fall arrest systems containing lifelines must be defined in risk assessments or Job Safety Analyses and to be approved by a work permit.

6.3.4 Use of Personal Protective Equipment against Fall from a Height

- It must be ensured that personnel applying personal fall protection equipment are trained appropriately acc. to chapter 6.6.2.
- All PPE must be applied acc. to manufacturer's instructions
- Fall protection devices and systems shall not be used for any other purpose than those for which they are designed.
- It must be ensured that only the correct combination of harness, lanyard, energy absorber, connectors (or retractable type fall arresters), further equipment (ropes, slings etc.) and anchor points are available for the task.
- Lanyards are only to be used to connect one person at a time

Detailed Checklist for safe use of Personal Protective Equipment against Fall from a Height is provided in Attachment 3.

6.3.5 Checks, Inspections and Maintenance

Fall arrest equipment must be checked by users before and after use, with focus on:

- missing parts
- damage or noticeable changes to metal parts such as cracks, sharp edges, distortion, corrosion, chemical damage and signs of overheating or excessive wear
- damage to straps or ropes such as fraying, kinking, knotting, broken or pulled stitches and abrasion, or signs of defects
- signs of damaged or defective mechanical parts and connectors
- oxidation/corrosion or distortion of any metal connection devices.

Fall protection equipment must be maintained according to manufacturer's instructions so that it remains satisfactory for use during the construction period.

Fall protection equipment must be inspected according to local legislation but at least at an interval of at least 12 months. Inspections must be conducted by a competent person or the manufacturer (or designee, appointed agent). Inspections must be documented in an appropriate way.

Detailed inspection checklists are provided in Attachment 1: "Fall Arrest Equipment Inspection Checklist".

Equipment that is found to be damaged or defective must be marked, rendered inoperable, and withdrawn from service until it is repaired. Equipment must only be repaired by the manufacturer (or designee, appointed agent). Unless otherwise specified by the manufacturer, replacement parts must not be interchanged between brands or models.

Fall protection equipment which has been used to arrest a fall must be examined by a competent person and repaired or destroyed, as necessary.

6.3.6 Storage and Cleaning

Fall Arrest Equipment must be stored in a designated location where it is not exposed to:

- excessive heat
- excessive sunlight or harsh weather; and
- solvents, aerosols, paints, adhesives (including stickers), cleaning agents or petroleum products

Fall Arrest equipment must be stored in a designated location, where it:

- can be kept clean and dry
- is protected from mechanical damage or impact.

Equipment that has been wet must be thoroughly dried before being placed in storage.

Fall Arrest equipment must be cleaned when soiled and according to the manufacturer's recommendations.

6.3.7 Rescue

During planning stages, the means/equipment of rescue must be determined if the fall arrest equipment is intended to be used. An appropriate rescue procedure meeting the requirements indicated hereafter must be prepared by CONTRACTORS working at height. The procedure must be approved by COMPANY.

It must be ensured that a person who fell with the protection equipment can be rescued within 20 minutes at maximum since longer durations could lead to serious or fatal injuries (due to suspension trauma / orthostatic intolerance).

Therefore

- it must be ensured that professional external or internal rescue personnel (e.g. fire brigade) can rescue a fallen person with necessary rescue equipment

or

- necessary rescue equipment (i.e. descender devices, rescue lifting devices, rescue harnesses etc.) must be provided and
- trained personnel on site can perform the rescue applying the rescue equipment and
- rescue from height training must be organized soon after start of respective works and at least once every 12 months.

These considerations might also affect the design of the fall arrest equipment, e.g. additional D-rings on the harness to secure rescue lines or special body harnesses, which allow an unconscious person to remain upright (rescue out of confined spaces).

If self-rescue is impossible, or if rescue cannot be performed promptly, the worker should be trained to "pump" his/her legs frequently to activate the muscles and reduce the risk of venous pooling. Footholds can be used to alleviate pressure, delay symptoms, and provide support for "muscle pumping."

Positioning the rescued person in a position with raised legs is life-threatening!

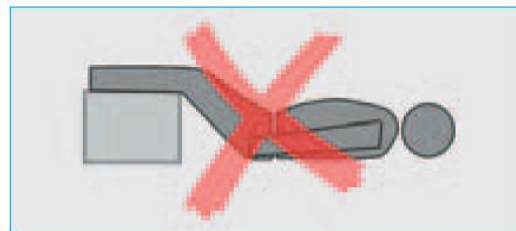


Figure 11: Wrong positioning of rescued person

The rescued person must be positioned with the upper body raised and with tucked legs for 20 to 40 minutes.

It must be ensured that the rescued person is placed under observation by a health-care professional and when appropriate, could be hospitalised. Possible delayed health effects, such as kidney failure, which is not unusual in these cases, are difficult to assess on the scene of the incident.



Figure 12: Correct positioning of rescued person

6.4 Protection against Falling Material

It must be ensured, that no loose material may fall from height.

Materials left at height must be reduced and removed as far as possible and practicable. If materials are left on the elevated locations, it must be made sure they are secured and cannot fall or be blown off by windy weather or blasts.

During performance of work on elevated platforms materials, equipment, tools and waste should be stored in containers or boxes or otherwise secured against falling. Tools must be tied off with lanyards or ropes to prevent them from falling during use. As additional protection against falling material and equipment from height toe boards for scaffolds and platforms must be in place. Netting should be applied as additional safety measure if necessary (e.g. above traffic routes).

If an acceptable risk cannot be ensured by above mentioned mitigating actions, the endangered areas must be cordoned off with enough distance that any deflection is considered. Warning signs must be displayed. The radius or distance to be considered for cordoning off must be calculated as follows:

Radius or Distance \geq Height/5 (at least 3 m / 10 ft.)

Available platforms below the level of work activities (e.g. scaffolds, grating platforms) might be considered as protection against falling material, if they are sufficiently stable to withstand the loads of falling material, closed to prevent material falling further down and if access to these platforms is prevented).

6.5 Protection against Electrical Hazards

Adequate clearance to overhead power lines during all working operations including all personnel as well as equipment and tools utilised by them must be ensured to protect the equipment and personnel against electrical hazards of high voltage (see table).

Power Line Clearance Distances (Uninsulated Lines)	
Voltages	Distances from Power Lines
up to 1000 V	1 m
1 kV – 110 kV	3 m
110 kV – 220 kV	4 m
220kV - 380 kV	5 m
if voltage is not known	5 m

If this is not possible the following protective measures have to be implemented:

- de-energize adjacent electrical infrastructure or equipment under power or
- cover overhead-lines with non-conductive insulation material or
- erect a physical barricade to avoid reaching into the safety clearance

If cranes and other high reaching equipment could possibly reach into the safety clearance, the following measures must be implemented:

- Use a proximity device to warn the operator or preferably to enable the equipment to reach or turn into the safety clearance

6.6 Personal and Individual Measures

6.6.1 Medical Examination and Fitness

Personnel who will perform work at height and may be exposed to hazards to their health must undergo medical health examinations as far as reasonably practicable under local legislation to prove its fitness to work.

6.6.2 Training and Instruction

The HSE Induction/Orientation training provided to all employees must include the topic "working at height".

Additionally, CONTRACTOR must provide working at height trainings before start of any of the listed below activities and, at least, once a year to all workers involved in working at height:

- Structural steel erection
- Working on scaffolds, mobile scaffolds, suspended scaffolds
- Working on ladders
- Use of personal fall protection equipment
 - Circumstances, conditions and limits of use
 - How to create/use anchor points
 - Correct techniques for attachment to anchor points, hook-up and tie-off
 - Fitting of body harnesses and use of connectors
 - Techniques for use
 - Method of inspection, cleaning and storage
- Use of rescue equipment
- Operation of elevated mobile work platforms
- Use of personnel carriers / work baskets
- Working on roofs
- Protection against falling material
- Protection against electrical hazards

Each training must include the hazards, risks and necessary safety measures of the relevant activities.

Copies of training records must be submitted to COMPANY upon request.

6.7 Reporting and Investigation

Every incident occurring during elevated work must be reported immediately to COMPANY's Site Manager and the Site HSE Manager.

For details see &A?-W-PQ 9601 "HSE Program Site".

7 Special Requirements

7.1 Portable Ladders

7.1.1 Restrictions for Application

In general, no ladders should be used for frequent access or as workplace. Mobile scaffolds, mobile platforms, lifts, elevators or scaffold towers should be preferred.

Ladders may only be applied **as workplace** under the following conditions:

- Maximum height above ground resp. max. height of fall: 5 m / 16 ft.
- Maximum duration of work: 2 hours (disregarding the number of persons, the complete duration of a specific job counts)
- Maximum load to carry: 10 kg / 22 lbs
- Maximum size of material to carry: 1 m² (1 square metre) / 11 ft²
- No hazardous works or works with extensive expenditure of energy should be performed.

Ladders may only be applied **as means of access** under the following conditions:

- **Stepladders** must not be used for access to elevated work platforms
- Straight or extension ladders may only be used to enter work platforms in a height of maximum 5 m / 16 ft. or means of fall protection must be provided

7.1.2 Technical Requirements

- Ladders must be suited for the purpose for which they are to be used (e.g. straight-/ extension ladders, step-/platform ladders),
- Ladders must be free from defects,
- Ladders must comply with local legislation or any kind of state-of-the-art standard,
- Ladders must not be self-made,
- Only ladders made from non-conductive materials must be used for work on or near live electrical installations,
- Wooden ladders should not be used.
- Ladders (especially wooden ladders) must not be painted over (because minor defects then are not visible anymore)
- Makeshift props must not be used to gain extra height or to level up stiles,
- Ladders must have non-slip feet.
- Steps and platforms must have an anti-skid surface. Flattened rungs are preferable to round rungs.
- Platform ladders must provide an adequate railing for safe work on the platform.

7.1.3 Use of Ladders

General:

- In general, personal protective equipment against fall from a height must be used when working on straight ladders. Exceptions are only possible if
 - ladder is used for access only
 - no proper anchor points are available (see chapter 6.3.3.3)
 - the height of fall is < 2 m
- If the height of fall exceeds the working height (e.g. working on elevated platforms next to guardrails - see figure 13), personal protective equipment against fall from a height must be used.
- If personal protective equipment against fall from a height must be used, the minimum clearance to arrest falling persons must be ensured (see chapter 6.3.3.3).
- Only one person should work on a ladder, unless if otherwise designed.

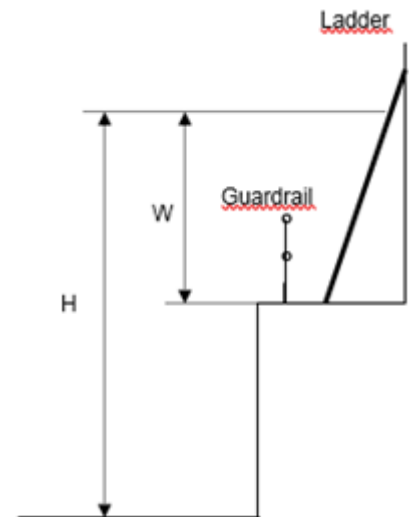


Figure 13: Ladder on elevated platforms

- While working from a ladder you must not overreach. The ladder must be long enough and positioned right to reach the work safely.
- During ascending or descending both hands must be free.
- Tools and materials must be carried in either a suitable shoulder bag or belt, or be hoisted up afterwards.
- Ladders must be set on a firm level base or appropriate support.
- Ladders must not cause a hazard by placing them where they may be struck or dislodged. Barriers should be placed around the foot of the ladder where necessary.

Step ladders/Platform ladders:

- a step ladder, it must be ensured that the
- ladder lock is fully opened
- The ladder must be descended before moving it to a new position.
- It is not allowed to work from the top rung of a step ladder.

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Figure 14: Most important parts of a platform ladder

Straight ladders/Extension ladders:

- Straight ladders/Extension ladders must extend at least 1 m / 3 ft. above the landing place unless some other suitable handhold is available.
- Straight ladders/Extension ladders must not rest against any fragile surface or fitting.
- Straight ladders/Extension ladders must only be leaned against secure objects (e.g. no pipes, no cable trays or other unstable, unsecured objects)

- Straight Ladders/Extension ladders should be pitched with a one in four inclines (75 degrees to the horizontal)
- It is not allowed to stand on the top three rungs of a straight or extension ladder.
- Straight ladders/Extension ladders must be secured appropriately against slipping at the bottom or tipping over especially if surrounding conditions require special precautions

- o If only single access is necessary, accordingly manufactured ladders must be used, already equipped with special features against slipping (e.g. spikes, anti-slipping joints, etc.) or tipping over with dedicated fixing devices.
- o Straight ladders/Extension ladders used as regular access and workplace must be secured additionally against slipping by lashing at the top.
- o Where it is impossible to secure the ladder as stipulated someone must be instructed to steady the ladder by standing at the bottom and hold the ladder in place with one foot on the bottom rung.



Figure 15: Anti-slipping devices

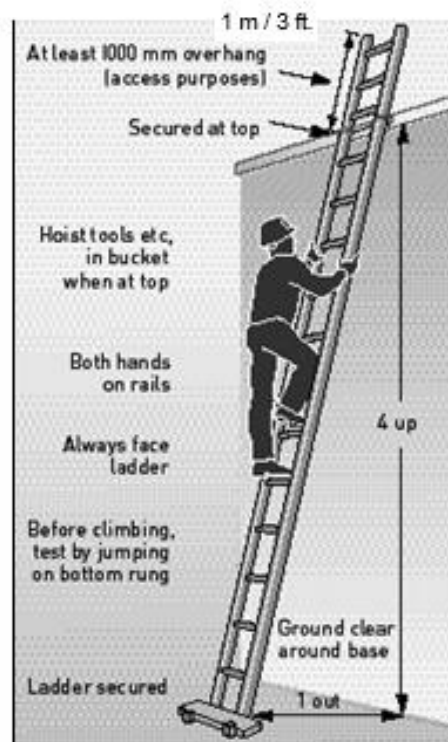


Figure 16: Correct use of a straight ladder

7.1.4 Checks and Inspection of Ladders

- All ladders must be inspected at least on a quarterly basis by a competent person of CONTRACTOR.
 - o The competent person checks for bends, dents, cracks, lose or missing rivets, disconnected braces and corrosion.
 - o He or she must carefully inspect the area around rivet points on fibreglass ladders for hairline stress cracks.
- If a ladder is found to be defective, it must be removed from service immediately.
- If a ladder passes an inspection, a tag listing the inspection date and the competent person's name should be attached to the ladder
- Inspections must be recorded appropriately (e.g. in an inventory list).
- The documentation of inspections must be readily available and must be submitted to COMPANY on demand.
- Persons using ladders must also check them prior to and after each use, and check for bends, dents, cracks, lose or missing rivets, disconnected braces and corrosion.
- If any weakness is found, the supervisor must be notified, and the ladder must be removed from service immediately.

- If a ladder must be removed from service, it should be cut up or otherwise destroyed to avoid any further possible use.

7.2 Scaffolds

7.2.1 General Requirements

For technical requirements regarding the erection, dismantling and modification of scaffolds refer to &A?-W-SC 9610 "Scaffolding - HSE Requirements for Erection, Dismantling & Modification". Only scaffolds meeting these requirements may be accessed.

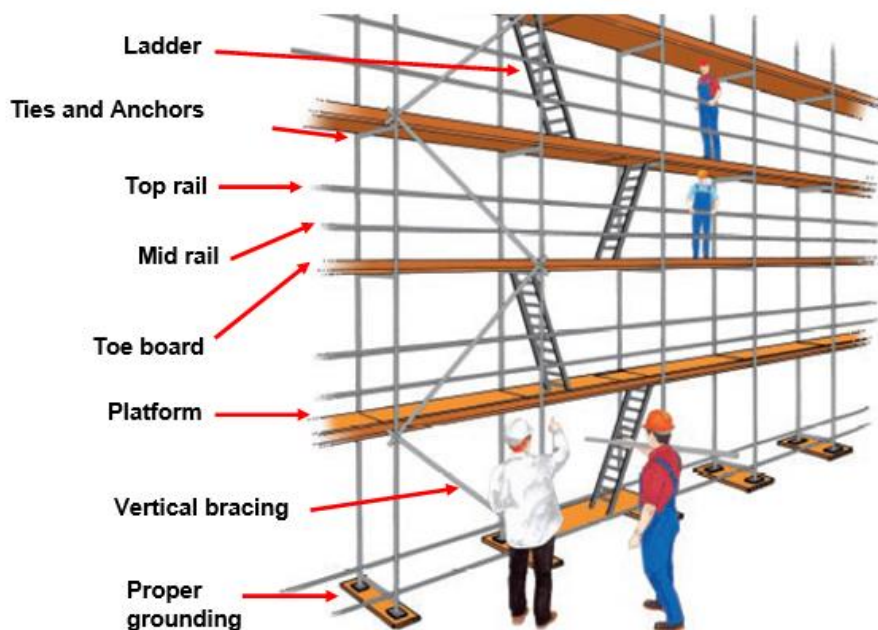


Figure 17: Most important parts of a safe scaffold

7.2.2 Use of Scaffolds

- CONTRACTOR must visually inspect whether the provided scaffolds are meeting the requirements acc. to local legislation, applicable standards and &A?-W-SC 9610 before first use of a scaffold.
- After longer periods of non-use and severe weather conditions (storm, heavy rain etc.) the scaffolds must be inspected before resuming work.
- For the inspection of scaffolds, the checklist "User Inspection of Scaffolds" should be applied (refer to Attachment 2).
- Only 'green tagged' scaffolds may be accessed, 'red tagged' scaffolds must not be accessed.
- Safety harness must be used and to be hooked on if stipulated ("yellow tag").
- Working platforms must be cleared of debris.
- Working platforms must not be overloaded and the load must be evenly distributed.
- Nobody else except for the scaffolding CONTRACTOR is allowed to modify the scaffolding.

7.2.3 Special Requirements for Mobile Scaffolds

- The use of mobile scaffolds is only allowed on a hard, plane floor (e.g. paved floor) to reduce the possibility of overturning.
- Mobile scaffolds may only be mounted inside the scaffold structure
- Mobile scaffolds must not be moved with people or loose equipment on them.
- Mobile scaffolds should be moved in diagonal direction.
- During moving of a scaffold no person must stay underneath it.
- During work on elevated platforms people should not lean against mid rails (danger of tipping over).
- Hoists must not be attached on mobile scaffolds.
- Mobile scaffold wheels should be locked while scaffold is stationary/work in progress.



Figure 18: Mobile scaffold with integral staircases

7.3 Mobile Elevating Work Platforms / Aerial Lifts

7.3.1 General Requirements

Mobile Elevated Work Platforms (MEWPs) / Aerial Lifts are used for occasional use for works at heights and are designed to lift or lower personnel and equipment to a work location by means of a telescoping device, scissor action or articulated device (e.g. cherry pickers, scissors lift etc.).

- MEWPs / Aerial Lifts must comply with local regulations or any kind of state-of-the-art standard.
- Drivers of mobile work platforms must be specifically authorised in writing to operate the platforms and be trained and competent on the type of lift to be operated.



Figure 19: Elevated mobile work platforms (EWP)

7.3.2 Use of MEWPs / Aerial Lifts

- Personnel riding in or working from MEWPs / Aerial Lifts must wear personal protective equipment against falling from height and connected to a suitable anchor point on the platform.
 - The anchor point shall be designated as such by the manufacturer or retrofitted according to the manufacturer's instructions and applicable standards (e. g. EN 280 ' Mobile Elevating Work Platforms') / ANSI A 92.2.
 - The personal fall arrest system must consist of
 - a full body harness
 - a lanyard (maximum length of 1.5 m / 4 ft.
 - The additional use of an energy absorber is recommended (maximum length of lanyard incl. energy absorber is 1.5 m / 4 ft.)
- The MEWP / Aerial Lift must be operated on level and firm ground conditions in order to alleviate the possibility of overturning.
- Safe working loads and the permitted number of persons on the platform must not be exceeded.
- Working areas must be barricaded (e.g. by cones, warning tape, warning lights) or monitored by a spotter if there is a potential of falling materials from height.

- There must be adequate clearance to prevent the mobile work platform colliding with adjacent structures, overhead power lines, other vehicles etc.
- When not in operation MEWP / Aerial Lift must be secured against unauthorised use.
- Special precautions need to be considered when working near live electrical power lines (refer to chapter 6.5)
- Emergency considerations must be in place for an emergency retrieval of personnel.
- In general, getting on or off the work basket in elevated positions is not allowed. Exception are only allowed when following the requirements as defined in "Exiting and climbing over work platforms and work cages" ([EN version](#)).
- MEWPs / Aerial Lifts must not to be used for hoisting or transferring materials to and from height (except for materials necessary for the work to be executed from the MEWP / Aerial Lift work basket).
- Personnel must not climb on the guardrail, ladders or similar inside the work basket.

7.3.3 Checks and inspection of MEWPs / Aerial Lifts

- Before use and at start of each work shift, the MEWP / Aerial Lift must be checked and tested by the operator or a competent person.
- Checks must include the safety and interlock controls, tyres, structure and hydraulics (obvious damages or leaks).
- For the inspection of MEWPs / Aerial Lifts, the checklist " MEWP/Aerial Lift Daily Pre-use Inspection Checklist" should be applied daily before use (refer to Attachment 4).
- MEWPs / Aerial Lifts must be subject to regular inspections at least yearly and maintenance according to manufacturer's regulations by a competent person.
- Inspections must be recorded appropriately.

7.4 Work Baskets

7.4.1 Suspended Work Baskets

Lifting of personnel in work baskets with cranes not especially constructed and built for lifting of personnel, should only be carried out in exceptional circumstances, provided relevant safety measures are taken care of.



Figure 20: Suspended work basket

7.4.1.1 Crane

- The crane operator is physically and psychologically fit, in possession of a medical certificate, and specifically trained for the type of lifting machine (proof of competency) and operated the crane (or similar) regularly for at least 12 months.
- The crane must have valid certificates, has passed periodic inspections according to local legislation regulations but at least yearly by a competent person and is free from defects.
- The crane must be erected properly and in accordance with manufacturer's instructions on a stable foundation.
- The crane lifting capacity must not be utilised more than 50% of its capacity in the lifting table.
- The crane system shall not allow suspended load or crane to accidentally be moved. This means that cranes with emergency release or freeing of the hook shall not be used for lifting of personnel. Rather, the load line hoist drum shall have a system or device on the power train, other than the load hoist brake, which regulates the lowering rate of speed of the hoist mechanism (controlled load lowering). Work baskets must never be lowered in free fall conditions.

- Before lifting personnel, the crane shall be inspected with respect to
 - Wire rope and its end fixing
 - Wire reeling on the drum
 - Wire guidance through the sheaves
 - Function test of limit switches, brakes and emergency stop

7.4.1.2 Rigging

- Wire rope, shackles, rings, master links, and other rigging hardware must be capable of supporting, without failure, at least five times the maximum intended load applied or transmitted to that component.

7.4.1.3 Work Basket

- Work baskets must comply with local regulations or any kind of state-of-the-art standard.
- The work basket must have passed periodic inspections according to local legislation regulations but at least yearly by a competent person and is free from defects.
- The work basket must have a guardrail and a suitable anchor point for the use of personal fall protection.
- The work basket must have a gate or similar for safe access and egress protected against accidentally being opened.
- Employees must be protected by overhead protection on the personnel platform when employees are exposed to falling objects.

7.4.1.4 Use of Work Baskets

- Safe working loads and the permitted number of persons on the platform must not be exceeded.
- Personnel working out of personnel carriers must wear a full body harness securely connected to a suitable anchor point in the basket (see chapter 6.3).
- The crane driver position must always be manned, unless the work basket is equipped with a control panel.
- Reliable communication must be established between crane driver and person in the work basket.
- The area below the work basket must be cordoned off.
- The work area must be well lit, and weather conditions must allow working from a work basket
- Tools and equipment must be secured against falling.
- Getting on or off the work basket in elevated positions is not allowed.

7.4.2 Vehicle-mounted Work Baskets

Lifting of personnel in work baskets attached to vehicles like forklifts, wheel loader etc. should only be carried out in exceptional circumstances, provided relevant safety measures are taken care of.

7.4.2.1 Vehicle

- The vehicle operator is physically and psychologically fit, in possession of a medical certificate, and specifically trained for the type of machine (proof of competency).
- The vehicle used for lifting work baskets must be approved by the manufacturer for that purpose.
- The vehicle must have valid certificates, has passed periodic inspections according to local legislation regulations but at least yearly by a competent person and is free from defects.
- The vehicle lifting capacity must not be utilised more than 50% of its capacity in the lifting table.

7.4.2.2 Work Basket

- Work baskets must comply with local regulations or any kind of state-of-the-art standard.
- The work basket must have passed periodic inspections according to local legislation regulations but at least yearly by a competent person and is free from defects
- The work basket must have a guardrail.
- The work basket must have a gate or similar for safe access and egress protected against accidentally being opened.
- Work baskets being attached to forklifts must have

- Expanded metal back extending up at least 2 m / 6 ft. from the platform floor and covering the full width of the forklift mast assembly
- Enclosed slots for trucks
- Appropriate means to secure the basket to the forks resp. the forklift mast (e.g. heavy-duty chains, mechanical latching devices)

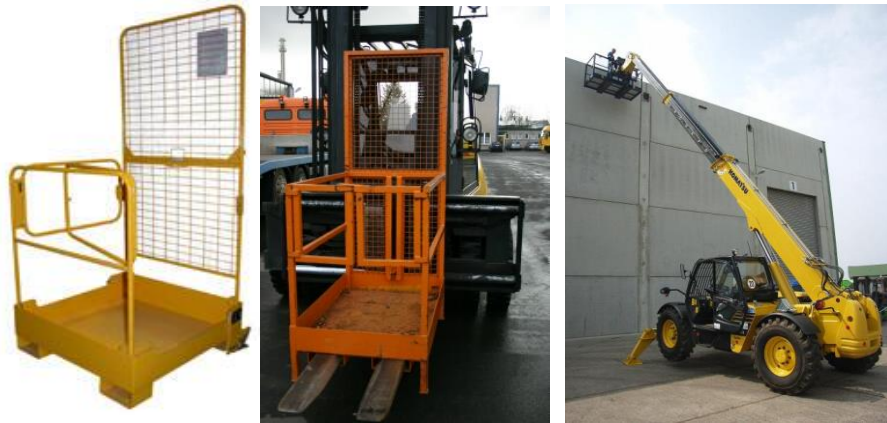


Figure 21: Vehicle-mounted work baskets

7.4.2.3 Use of Work Basket

- Employees must be protected by overhead protection on the personnel platform when employees are exposed to falling objects.
- Safe working loads and the permitted number of persons on the platform must not be exceeded.
- The vehicle driver position must always be manned, unless the work-basket is equipped with a control panel.
- Tools and equipment must be secured against falling.
- Getting on or off the work basket in elevated positions is not allowed.

7.5 Boatswain Chairs

- Boatswain chairs may only be used if the respective work cannot be performed safely and practicably by other means (e. g. mobile elevated work platforms / aerial lifts, scaffolding, single or two-points adjustable suspended scaffolds).
- Accepted applications of boatswain chairs are inspection activities, repair work and other short-term activities only as well as for perlite removal inside cold boxes.
- For the exceptional use of boatswain chairs all personnel and the responsible supervisors must be trained and certified for the use of this equipment by a 3rd party.



7.6 Roof Work

Any work on a roof, even if it only lasts a short time is a high-risk activity. Injuries and fatalities can occur from workers falling:

- from the edges of roofs (eaves and gable)
- inside the building and through openings, gaps or holes in roofs or
- through fragile roof materials or roof lights.

7.6.1 Protection against Falling from the Edge

7.6.1.1 Flat Roofs

Flat roofs are roofs with a maximum angle of slope of 20 degrees

If no work within a distance of 2 m / 6 ft. to the edges is necessary, the work area must be barricaded in a minimum distance of 2 m / 6 ft. to the relevant edges. The barricade should be solid instead of danger tape, barrier tape or similar.

If this is not possible due to the location of the work area one of the following protective measures must be applied

- Fall prevention by guardrails (see chapter 6.1)
- Fall arrest by a service scaffold, safety nets or other appropriate means (see chapter 6.2)

Only if the roof work does not exceed 2 man-days (like 16 manhours) it is allowed to apply personal protective equipment against fall from a height (see chapter 6.3.).

7.6.1.2 Pitched Roofs

Pitched roofs are roofs with an angle of slope exceeding 20 degrees

The following protective measures must be applied

- At the gable: Fall prevention by guardrails (see 6.1)
- At the eaves: Fall arrest by a service scaffold with special protective means to catch falling persons form a pitched, sloped roof (i.e. higher guardrails, safety netting in the guardrail), safety nets or other appropriate means (see 6.3)

Only if the roof work does not exceed 2 man-days it is allowed to apply personal protective equipment against fall from a height (see chapter 6.3).

Additionally, appropriate work platforms, roof ladders, boards etc. must be provided.

7.6.2 Protection against Falling inside or through Openings

Roof cladding work must be conducted under the protection of appropriate fall arrest systems. Safety nets should be applied, if the required clearance (according to manufacturer's information or relevant legislation) under the roof can be ensured (usually a minimum clearance of 6 m / 20 ft. is required). Therefore, the schedule for the installation of equipment inside the building must take the roof works into account since the equipment could impact the usage of safety nets as a fall arrest system.

If due to permanently, not removable installed equipment or a low height of the building the required clearance cannot be established different means of fall arrest systems (i.e. service scaffolds) or suitable work equipment (e.g. mobile platforms, mobile scaffolds) must be provided.

Only if due to the nature of work the usage of service scaffolds, mobile platforms, mobile scaffolds etc. is not reasonably practicable or the roof work does not exceed 2 man-days, personal protective equipment against fall from a height (see chapter 6.3) can be applied.

Openings, gaps and holes of at least 0.3 m width must be covered non-relocatable or protected by guardrails or safety netting (synthetic or wire) beneath the opening unless the whole roof is protected against falling by safety nets or similar means or personal protective equipment against fall from a height is provided for works not exceeding 2 man-days.

7.6.3 Protection against Falling through a fragile Roof Material

A fragile material does not safely support the weight of a person and any load they are carrying. The fragility of a roof does not depend solely on the composition of the material in it.

The following factors are also important:

- thickness of the material
- the span between supports
- sheet profile
- the type, number, position and quality of fixings
- the design of the supporting structure
- the age of the material.

Typical fragile roof materials or components are:

- fibre cement
- glass
- roof lights
- light-bands
- dome lights

The fragility of a roof or other materials must be confirmed **before** work starts. If there is any doubt, the roof should be treated as fragile.

It must be ensured that appropriate warning signs are displayed on existing roofs and at roof access points.

7.6.4 Working on fragile Materials

For works on fragile materials appropriate platforms, coverings or similar means must be provided to avoid breaking through the fragile material (use of crawler boards/ladders shall be considered to work on fragile roofs). This equipment must be installed in a way that the evolving loads can be carried. Therefore, it must be ensured that support platforms are long enough to provide adequate support across roof members.

Support platforms or similar means must be at least 600 mm / 2 ft. wide and more when the work requires it.

Fall protection measures must comply with chapters 6.1 and 6.2.

7.6.5 Working near fragile Material

Protection is needed when anyone passes by or works closer than 2 m / 6ft to fragile materials. Therefore, the work area must be barricaded in a minimum distance of 2 m / 6 ft. to the fragile materials.

If this is not possible the fragile materials must be covered securely and non-relocatable or protected by guardrails or safety netting (synthetic or wire) beneath the fragile material.

7.6.6 Access

Safe access routes to the roof must be provided and must be suitable for a quick evacuation in the event of an emergency. If a permanent stairway or ladder is not available a safe and secure temporary access system must be put in place. Ladders are only allowed when meeting the requirements of chapter 7.1.

7.6.7 Weather Hazards

If avoidable, work should not be carried out on roofs during icy, wet or windy conditions, during sand storms and thunderstorms.

7.7 Steel Erection

7.7.1 Structural Steel Erection

Only trained and experienced workers must be utilised for the installation work. Personnel must receive specific instructions on the equipment to be used and the fall protection procedure to be utilised during the work.

Personnel erecting structural steelwork must be provided with and use suitable fall protection, including full body harnesses, running lines, self-reeling arrestor devices, etc.

Lifelines to be connected to the steel structure should be installed before steel is lifted as far as reasonably practicable.

The area below the steel erection work must be roped off and have warning signs displayed.

All tools being used at height must be secured with restraining ropes to prevent them falling on others.

The practice of throwing tools and bolts at height is not permitted. All steel being raised and landed by crane must be fitted with tag lines for ease of control.

7.7.2 Erection of Gratings

Erection of gratings on elevated levels must be precisely planned and organised in a logical sequence to avoid unnecessary and hazardous openings. Preparative measures must be provided on ground to reduce works on height.

Preliminary preparations prior to installation works

- safe access to elevated working platforms must be installed, e.g. ladders, stairs, scaffolding,
- grating panels must be prepared on the dedicated and signed material laydown yard,
- gratings must be visually inspected upon initial delivery to confirm no damage,
- **gratings must be segregated per panels and per level and arranged in a logic sequence of erection for each level according to the Grating Erection Plan,**
- the completeness for each level of the structure must be checked. Note: missing panels will leave unnecessary hazardous openings
- the work area and all safety provisions must be visually and physically checked.

Erection

- personal protective equipment against fall from height (see chapter 6.3.) must be provided during handling and placement of grating panels,
- sufficient workers for handling and placement of gratings should be available,
- sequence of installation work must be: From bottom to top. Only if a lower level is completed installation on the next higher level should commence.
- installation works of grating panels should commence at one of the corners of the structure, where safe and easy access is provided,
- only an exact number of gratings for each row at every level of the structure should be unloaded,
- the grating should be gradually placed on each specific location,
- the arrangement on each row of the grating should be followed,
- during the process of grating placement, panels must be secured with fasteners (tapping screw, clamp) as early as reasonably practicable, to ensure a safe work floor,
- the installation must be continued until the last grating panel on the row is reached.
- erection must be proceeded to the succeeding row until the last row of the grating panel is accomplished,
- after completing the erection of grating at the first level, proceeding with the next level of the structure may continue (do not jump from one level to the other).

7.7.3 Removal of Gratings

No floor grating must be removed without first contacting COMPANY's Site HSE Manager and application for a work permit at COMPANY in accordance with &A? W-SC 9601 "Permit to Work System" ("Working at Height Permit").

For grating removal, all the following requirements shall apply:

Never remove or leave a piece of grating out without first installing a hard barricade, guardrail or equivalent, which will entirely encompass the opening, or properly cover the opening.

1. If covers are utilized they must:

- Be constructed as to adequately support without failure, at least twice the weight of any persons and/ or equipment.
- Be fixed or secured by means of wire tie downs, clips or other equivalent fastening method against unintended lifting or shifting.
- Have some means of identifying the hazard on the cover, such as "floor opening" signs



Figure 22: Example of Cover

2. If hard barricading or guardrail are used it shall:

- Be constructed of scaffolding material
- Have a complete top rail (no voids)
- Have a top rail height of not less than 0,9m / 39" and not more than 1,1m / 42" above the floor according to &A? W-SC 9610 "Scaffolding"
- Have a complete mid rail installed at a point midway between the top edge of the top rail and the grate floor, with exception of the designated access point to the removed grates opening according to &A? W-SC 9610 "Scaffolding"
- Be secured self-supporting and capable of withstanding all expected loads
- "No unauthorized entry" signs to be posted on all sides of the barricade.



Figure 23: Example of Barricading of small opening



Figure 24: Example of Barricading of large opening

3. Upon removal of grating

- Ensure the remaining grates bordering the removed grates opening are protected from movement or slippage. The existing grating shall be secured by installed clips
- Set grating in an area as to not cause a tripping hazard, block escape ways or interfere with other contactors or work activities
- Stack grating away from the opening to eliminate any chance of it being knocked into or across the opening
- Stacks shall be organized and uniform and not present a safety hazard

4. Additional measures

- When working around removed grating, ensure adequate lighting is provided to illuminate the opening
- Warn and inform other personnel in the removed grating
- When re-installing gratings, ensure that it is correctly positioned and fastened
- Take additional precautions as necessary to prevent injury
- Leather work gloves are required when handling grating
- All gratings must be reinstalled at the completion of the work task or at the end of the shift. No opening shall remain beyond the end of a shift, unless a new permit is obtained. No opening shall ever be left unguarded.

7.7.3.1 Laying Tarpaulin over grating

7.7.3.1.1 Prior laying of Tarpaulin

- Prior to laying of tarpaulin, it shall be ensured that the grating on this platform is completely installed and 100% fixed. Laying of tarpaulin is not allowed on staircase, and on pre-assembled platforms before lifting it onto final position
- a CONTRACTOR site walk down shall be by the area supervisor and the HSE supervisor to make sure that, gratings are properly fixed, clamped, and aligned.
- After that, a joint walkdown shall take place by COMPANY Site Manager or delegate and CONTRACTOR site manager, HSE manager to make sure that, all gratings are properly fixed, clamped and aligned 100%. If found in compliance and satisfactory, all concerned personnel shall fill, sign the **Attachment 5: Pre-Tarpaulin Laying Checklist** and give the clearance for tarpaulin laying.

7.7.3.1.2 Tarpaulin Laying

- Tarpaulin laying shall not start unless a permit is issued by COMPANY Site Manager or delegate
- Tarpaulin shall be inspected prior to laying.
- All the necessary tools/ material required shall be ensured prior to laying of tarpaulin.
- Hazards and control measures associated with the activities shall be communicated to the site employees using BeSafe daily.
- Tarpaulin shall be installed tailored fit over the gratings.

7.7.3.1.3 After laying of Tarpaulin

- CONTRACTOR Site Manager or delegate shall inspect the elevation. Concerned personnel shall give an acknowledgement for working on that elevation by filling and signing the **Attachment 6 Post-Tarpaulin Laying Checklist** after ensuring safe condition.
- Contractor HSE officer shall do daily twice visual inspection using for all grating platforms using **Attachment 7 Daily Inspection Checklists**.

- COMPANY to review the effective implementation of this procedure regularly and if it is found that there are repetition of major violations pertaining to the activity, the process of tarpaulin installation over grating will be revoked.

7.7.3.1.4 If covered grating must be removed

- If grating must be removed for piping assembly and there is no alternative, work at height procedure Chapter 7.7.3 must be applied, PTW must be obtained for removal of each single opening. Details of the grating shall be mentioned on the work permit with layout the permit to be issued by COMPANY Site Manager or delegate
- Tarpaulin shall be tailored cut along with the grating which is intended to be removed with the same size as grating.
- Haphazard, unsafe, loose, and improper laying of tarpaulin shall not be allowed.
- Hard barricades with signage's shall be installed around the grating openings
- The grating which is removed along with the tarpaulin must be kept aside and installed back after completion of works.
- Adequate multilingual signage's and awareness posters shall be displayed at each elevation/platform
- Grating removal is prohibited during night shift.
- If any grating is removed without authorization, the responsible supervisor and crew lead shall be terminated from site.

7.7.4 Incomplete Steel Structures

Only authorised and competent personnel must work from incomplete structures. Uncompleted steel structures must be secured as soon as possible to prevent falls from height:

- barricades, temporary or permanent guard rails and floor covers must be installed to eliminate the risk of falling from uncompleted structures
- to gain access to these structures vertical temporary or permanent secured ladders or preferred stairs must be installed as soon as possible

7.7.5 Walking and Working Platforms

Any material being used to erect temporary walking or working platforms (e.g. scaffold boards, gratings) must be secured to prevent them from unintended shifting and lifting.

8 Documentation and Records

This document and relevant records shall be controlled as defined in "Preparation of Internal Documents" (&AZ-Q-PP 1050.060.010 (EN)), "Distribution of Documents" (&AZ-Q-PP 1050.063.010 (EN)) and "Archiving of Documents" (&AZ-Q-PP 1050.066.010 (EN)).

8.1 COMPANY's Documents

Reference	Title
&A?-W-PQ 9601	HSE Program Site
&A? W QR 9604	Job Safety Analysis
&A?-W-SC 9601	Permit to Work System
&A?-W-SC 9610	Scaffolding

Referenced document numbers with the originator code "&A?" in this project always refer to project documents with entity originator code "&AA".

9 Revisions

Proposals for revisions of this Safe Work Procedure should be forwarded in writing to the Global Construction department 'Construction and Commissioning HSE'.

10 Distribution

This document will be administered and distributed by the Global Construction department 'Construction and Commissioning HSE'.

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ATTACHMENT 1: CHECKLIST FOR FALL ARREST EQUIPMENT INSPECTION

REQUIREMENT	YES	NO	COMMENT
FULL BODY HARNESS			
Hardware: includes D-rings, buckles, keepers and back pads. Inspect for damage, distortion, sharp edges, burrs, cracks and corrosion.	<input type="checkbox"/>	<input type="checkbox"/>	
Webbing: Inspect for cuts, burns, tears, abrasions, frays, excessive soiling and discoloration.	<input type="checkbox"/>	<input type="checkbox"/>	
Stitching: Inspect for pulled or cut stitches.	<input type="checkbox"/>	<input type="checkbox"/>	
Labels: Inspect, making certain all labels are securely held in place and are legible.	<input type="checkbox"/>	<input type="checkbox"/>	
LANYARD / ENERGY ABSORBER			
Hardware: (includes snap-hooks, carabiners, adjusters, keepers, thimbles and D-rings) Inspect for damage, distortion, sharp edges, burrs, cracks, corrosion and proper operation.	<input type="checkbox"/>	<input type="checkbox"/>	
Webbing: Inspect for cuts, burns, tears, abrasions, frays, excessive soiling and discoloration.	<input type="checkbox"/>	<input type="checkbox"/>	
Stitching: Inspect for pulled or cut stitches	<input type="checkbox"/>	<input type="checkbox"/>	
Synthetic Rope: Inspect for pulled or cut yarns, burns, abrasions, knots, excessive soiling and discoloration.	<input type="checkbox"/>	<input type="checkbox"/>	
Energy Absorbing Component: Inspect for elongation, tears and excessive soiling.	<input type="checkbox"/>	<input type="checkbox"/>	
Labels: Inspect, making certain all labels are securely held in place and are legible.	<input type="checkbox"/>	<input type="checkbox"/>	
SNAP HOOKS / CARABINERS			
Physical Damage: Inspect for cracks, sharp edges, burrs, deformities and locking operations.	<input type="checkbox"/>	<input type="checkbox"/>	
Excessive Corrosion: Inspect for corrosion, which affects the operation and/or the strength.	<input type="checkbox"/>	<input type="checkbox"/>	
Markings: Inspect and make certain marking(s) are legible.	<input type="checkbox"/>	<input type="checkbox"/>	

ATTACHMENT 2: USER INSPECTION OF SCAFFOLDS

REQUIREMENT	YES	NO	COMMENT
GENERAL			
Is Scaffold maintained in good condition? Is scaffold straight level & clean? (visual check)	<input type="checkbox"/>	<input type="checkbox"/>	
TAGGING			
Are adequate signs provided during erection, dismantling and modification (e.g. red tag 'no entry')?	<input type="checkbox"/>	<input type="checkbox"/>	
Are adequate barricades supplied during erection, modification or dismantling of scaffold?	<input type="checkbox"/>	<input type="checkbox"/>	
Are adequate signs provided at all access ladders after final inspection and release of scaffold (e.g. green tag)?	<input type="checkbox"/>	<input type="checkbox"/>	
Are adequate signs provided in the case of the scaffold not being safe for use (e.g. red tag 'no entry') or if special precautions apply (e.g. yellow tag in case of personal fall arrest system is required)?	<input type="checkbox"/>	<input type="checkbox"/>	
FOUNDATION			
Scaffold Standards supported on a firm base (sole boards & baseplates)	<input type="checkbox"/>	<input type="checkbox"/>	
ACCESS/EGRESS			
Is access and egress supplied to all working platforms? (all independent scaffolds must have access as well as egress from all working platforms to the ground)	<input type="checkbox"/>	<input type="checkbox"/>	
Is access/egress provided at least every 20 m / 65 ft.?	<input type="checkbox"/>	<input type="checkbox"/>	
Are all ladder and/or stair access internal (exception see next question)?	<input type="checkbox"/>	<input type="checkbox"/>	
Is the maximum height when standing on an external ladder above a stable platform or ground 5 m / 10 ft. If not, is a personal fall arrest system provided?	<input type="checkbox"/>	<input type="checkbox"/>	
PLATFORMS			
Are planks uniform and in good condition? (no splits, cracks, knots, bends etc)	<input type="checkbox"/>	<input type="checkbox"/>	
Are there gaps in working platform? (missing planks)	<input type="checkbox"/>	<input type="checkbox"/>	
Are loose scaffold boards secured to prevent them from shifting and lifting?	<input type="checkbox"/>	<input type="checkbox"/>	
FALL PROTECTION			
Are guardrails (top- and mid-rail) provided to all working and access/egress decks/areas?	<input type="checkbox"/>	<input type="checkbox"/>	
Are kickboards/toe boards fitted to all working decks?	<input type="checkbox"/>	<input type="checkbox"/>	

Is the opening between platform and structure, wall, equipment etc. max. 0.30 m / 18 i"? If not, is guardrail provided?	<input type="checkbox"/> <input type="checkbox"/>	
BRACING		
Has Bracing been supplied?	<input type="checkbox"/> <input type="checkbox"/>	
Does Bracing extend to full height of scaffold?	<input type="checkbox"/> <input type="checkbox"/>	
ANCHORAGE		
Are ties and anchors installed in regular distances?	<input type="checkbox"/> <input type="checkbox"/>	
MOBILE SCAFFOLD		
Was mobile supplied complete with erection instructions?	<input type="checkbox"/> <input type="checkbox"/>	
Is mobile fitted with handrails, mid rails and toe board?	<input type="checkbox"/> <input type="checkbox"/>	
Are wheels provided and locked when in use?	<input type="checkbox"/> <input type="checkbox"/>	
Is scaffold situated on a hard-firm surface?	<input type="checkbox"/> <input type="checkbox"/>	
Is working deck complete?	<input type="checkbox"/> <input type="checkbox"/>	
Is ladder supplied and fitted internally?	<input type="checkbox"/> <input type="checkbox"/>	

ATTACHMENT 3: SAFE USE OF PERSONAL PROTECTIVE EQUIPMENT AGAINST FALL FROM A HEIGHT

REQUIREMENT	YES	NO	COMMENT
The harness is individually fitted and adjusted in accordance with the manufacturer's instructions and as per the training provided.	<input type="checkbox"/>	<input type="checkbox"/>	
The condition of all components has been checked prior to use. Harnesses, lanyards, connectors, anchor points or further equipment of a fall arrest system are not being altered or modified.	<input type="checkbox"/>	<input type="checkbox"/>	
The correct assembly and function prior to trusting any weight to the equipment has been checked.	<input type="checkbox"/>	<input type="checkbox"/>	
There is adequate clearance within the snap hook enclosure to ensure the D-ring cannot jam in any position. The coupling has been checked by twisting to ensure accidental uncoupling of the snap hook and D-ring cannot occur (the D-ring does not depress the snap hook latch).	<input type="checkbox"/>	<input type="checkbox"/>	
An adequate anchor point has been chosen. The anchor point has been checked visually by the user whether it is strong enough, secure and suitable for connecting to.	<input type="checkbox"/>	<input type="checkbox"/>	
If possible, the lanyard has been attached before moving into any position from where the user would be at risk from a fall.	<input type="checkbox"/>	<input type="checkbox"/>	

ATTACHMENT 4: MEWP/AERIAL LIFT DAILY PRE-USE INSPECTION CHECKLIST

Operator:				Make & Model:				
Company:				Hour Meter Reading:				
Location:				Date: MM/DD/YYYY		Unit No.:		
POWER OFF CHECKS		Status		POWER ON CHECKS		Status		
		OK	NO	N/A		OK	NO	N/A
1) Wheels and Tires		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	21) Unit starts and runs properly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2) Lights/Strobes		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	22) Instruments/Gauges	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3) Mirrors/Visibility aids		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	23) Warning lights/audible alarms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4) Engine/Engine compartment:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	24) Fuel/Charge level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a) Belts/Hoses		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25) Horn/audible warning device(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cables/Wires		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	26) Function controls:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Debris		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	a) Boom/Jib/Lift Arms – raise/lower/extend/retract	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5) Battery/Batteries:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	b) Turret rotate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a) Terminals tight		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	c) Drive – forward/reverse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Clean/Dry/Secure		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	d) Steer – left/right	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6) Hydraulics:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	e) Platform – tilt/rotate/extend	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a) Cylinders/Rods		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	f) Stability enhancing devices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Hoses/Lines/Fittings		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	g) Function-enable (deadman) devices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7) Fluids:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	27) Emergency/auxiliary controls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a) Engine oil Level Leaks		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	28) Safety interlocks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Engine coolant Level Leaks		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	29) Braking – stops & holds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Hydraulic oil Level Leaks		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	30) Load Test (SWL)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Fuel/Battery Level Leaks		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	GENERAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8) Data/Capacity plate		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	31) Housekeeping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9) Verify equipment inspections are current		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	32) Manufacturer's operating manuals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10) Counterweight/Counterweight bolt(s)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	33) Decals/Warnings/Placards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11) Cover panels		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	34) Misc. parts – loose/missing/broken	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12) Boom valley/under platform – leaks/debris		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WORKPLACE INSPECTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13) Accessory plugs and cables		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	35) Drop-offs or holes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14) Boom/lift arms – general condition/wear		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	36) Bumps and floor/ground obstructions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15) Power track – lines/hoses		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	37) Debris	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16) Safety prop functional		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	38) Overhead obstructions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17) Platform – guardrails/toe		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	39) Energized power lines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18) Weather-resistant storage		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	40) Hazardous locations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19) Control markings		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	41) Ground surface and support conditions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20) Other:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	42) Pedestrian/vehicle traffic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
					43) Wind and weather conditions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
					44) Other possible hazards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Report any problems found to your supervisor/employer. ALWAYS lock/tag-out unsafe equipment.								
Comments								
Operator's initials:								
Alternative operator's initials:								

ATTACHMENT 5: Pre-Tarpaulin Laying Checklist

Building/Module elevation number: ##

Accumulative

No	General Conditions	Yes	No	If No Corrective Actions Taken
1	Are 100% gratings installed on the Platform?			
2	Are all the grating secured with Adequate clamps?			
3	Are the grating clamps tightened and secured?			
4	Is the Grating Platform completely guarded with Top rail, mid Rail, and toe board all around?			
5	Are the grating sizes and/or configuration is such that the gratings will not fall between the supports?			
6	Are all the gratings supported on load bearing edges with minimum length of overlap onto the support?			
7	Are the cut outs / opening (for Piping /structure) on the grating platform identified and are covered with scaffolding planks (adequately secured) or fall prevention provided around the cut outs accordingly?			

INSPECTED BY			
CONTRACTOR CONSTRUCTION	CONTRACTOR HSE	COMPANY HSE	COMPANY CONSTRUCTION
Name & Signature	Name & Signature	Name & Signature	Name & Signature

ATTACHMENT 6 : - Post-Tarpaulin Laying Checklist

Building/Module elevation number: ##

S. No	General Conditions	Yes	No	If No Corrective Actions Taken
1	Tarpaulin laid on the gratings is as per agreed requirement (Fire Retardant & semi-transparent)?			
2	Is tarpaulin laid properly and secured adequately?			
3	Are the overlapped gratings highlighted with red reflective caution tapes?			
4	Are the scaffolding planks & railing installed on the cut outs of the grating platform?			
5	Adequate Posters and signages installed at the grating platform level?			

INSPECTED BY			
CONTRACTOR CONSTRUCTION	CONTRACTOR HSE	COMPANY HSE	COMPANY CONSTRUCTION
Name & Signature	Name & Signature	Name & Signature	Name & Signature

ATTACHMENT 7: Daily Inspection Checklists

Pre-Tarpaulin Laying Checklist										
S.No	Building /Module &Elevation number	Date (DD/MM/YY)	Inspection Time (HH:MM)	Are 100% Gratings Installed? (Yes / No)	Are all installed grating secured with Clamps? (Yes / No)	Cut outs in the gratings are covered with scaffolding planks/Fall prevention provided ? (Yes / No)	100% Fall prevention(Railing) provided around the grating platform? (Yes/No)	Remarks	Name of the Inspector	Signature
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
Any violations recorded to be notified immediately to the CONTRACTOR Site Manager. Checklist To be Reviewed COTNTRACTOR Site and HSE Manager on weekly Basis										
REVIEWED BY:										
CONTRACTOR CONSTRUCTION						CONTRACTOR HSE				

Post-Tarpaulin Laying Checklist

S.No	Building /Module &Elevation number	Date (DD/MM/YY)	Inspection Time (HH:MM)	Tarpaulin laid properly & Secured Adequately Yes / No	Overlapped grating highlighted with red reflective caution tape (Yes / No)	Any unprotected floor opening found? Yes / No	Posters & Signage's Installed Yes / No	Remarks	Name of the Inspector	Signature
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
Any violations recorded to be notified immediately to the CONTRACTOR Site Manager. Checklist To be Reviewed COTNTRACTOR Site and HSE Manager on weekly Basis										
REVIEWED BY:										
CONTRACTOR CONSTRUCTION						CONTRACTOR HSE				