

# Scaffolding and Raised Platforms

## I PURPOSE

To provide a guideline for personnel who work around or on stationary or mobile scaffolding or raised platforms and which will provide them with a safe working environment.

## 2 SCOPE

This procedure applies to all functional areas, operations, offices, including employees, vendors, visitors and contractors within the scope of the Integrated Management System (IMS).

## 3 DEFINITIONS AND ACRONYMS

### Definitions

**Baseboards** (Toeboards-Kickplates) are barriers around the work platform (upper edge) to prevent the fall of material.

**Body of Scaffold** (Wrap) describes each individual section of the scaffold, i.e. the struts, crosstrees, and transverse rails. The body of the scaffold has an average height of 6 ft.

**Competent Supervisor** is any supervisor with proven experience in works with scaffolds, who has taken the courses in Scaffolds and Raised Platforms and Works at Heights at the COMPANY and is capable of identifying existing and predictable hazards in the surroundings or working conditions as well as has authorization to take immediate corrective action to eliminate hazards.

**Crosstree** (Sway Brace-Crossbrace) is a device used to brace the scaffold in order to keep the structure rigid.

**Guys** are lengths of appropriately 3/4" diameter synthetic rope, connected to the scaffolding and anchored to a fixed point to avoid horizontal displacements.

**Scaffold** is a temporary, metal tubular structure forming a walkway, travel way, or a work platform designed to facilitate works at heights greater than 6 feet and that meets the requirements set by this standard.

**Screwjack-Swiveljack-Pivotjack** an adjustable jack section placed at the base of the strut to level the base of the scaffold.

**Soleplate** (Mudsill, Baseplate) is a piece of wood or metal located at the contact of the strut with the ground, designed to distribute the weight of the scaffolding.

**Strut** (Leg-Post-Vertical) a vertical support that transmits the load to the ground.

**Transverse Rail** (Ledger-Runner-Horizontal-Bearer) a horizontal part that connects two struts.

**Work Platform** is a horizontal surface on which people stand to carry out their work.

### Acronyms

<b>HMR</b>	HSLP Management Representative
<b>HSLP</b>	Health, Safety and Loss Prevention
<b>IMS</b>	Integrated Management System

## 4 ROLES AND RESPONSIBILITIES

### Document Owner

HMR

### Responsible Roles and Position-Holders

**Contractors/Vendors** are businesses performing a service for the COMPANY. They are responsible for ensuring their employees working on COMPANY sites have the required training as specified in this procedure and that their employees understand and comply with the requirements as outlined in this procedure.

**Employees and Contracted Employees** are all employees in any position whether COMPANY or contracted employees working on any COMPANY site. They are responsible for complying with the requirements as outlined in this procedure and be familiar with the hazards associated with scaffolding and raised platforms.

**Visitors** are anyone not employed by the COMPANY in any capacity but are traveling or touring on a COMPANY site. They are responsible for complying with the requirements as outlined in this procedure.

**HSLP** is any COMPANY employee working under and including the Regional Director of HSLP. They are responsible for periodically auditing for compliance to this procedure.

**A Supervisor/Foreman** can be a COMPANY employee or a contractor/vendor working or traveling on any COMPANY site. They are responsible for enforcement of all requirements, rules, and established guidelines as outlined in this procedure. They ensure personnel are provided with needed tools/equipment, the necessary proper instructions/training and that they are familiar with the hazards associated with working at heights, scaffolding, and raised platforms.

## 5 DIRECTION

All employees, vendors, contractors, and visitors traveling/working on site shall comply with and ensure personnel accountable to them comply with the following requirements of this procedure

### General Rules

All work related to the assembly, modification or use of scaffolds must be performed under a competent supervisor.

Only personnel who are familiar with this Scaffold and Raised Platform Procedure and the Working at Heights Procedures are allowed to work on scaffolds.

All work performed while constructing scaffolds is classified as work at height and so the applicable standards/procedures must be complied with.

Employees must immediately report to the supervisor any sub-standard condition detected in the scaffold structure.

When worn, safety harness must be attached by means of an anchor line to a fixed structure or to a life line, never directly to the scaffold.

All scaffolds shall be designed and constructed to support a minimum of the scaffold weight plus 4 times the applied or transmitted load on the scaffold without failure.

Supports must bear on base-plates, mudsills, soleplates, or other adequate firm foundation as well as be level and plumb.

All footings must be level, sound, rigid, and capable of supporting the scaffold without settling.

Walkways and work platforms shall be a minimum of 18 inches wide.

Scaffolds shall not be constructed more than 4 times higher than the minimum base dimension of the scaffold without guys, ties, and braces installed to restrain from tipping according to manufacturers recommendations.

A worker must always maintain three-points of contact when climbing up and down the scaffold.

All tools and materials must be appropriately hoisted up and/or tool belts or appropriate tool bags must be used so that the worker can keep the hands free.

In cases where scaffold access ladders extend greater than 30 feet with no back guard, workers must have and use a protection system to prevent falls while climbing up or down. The use of a full body harness attached to a retractable life line or other such suitable safety device shall be used.

Areas under scaffolding and work platforms where work is performed will be flagged off and entry restricted. In areas where personnel need to work or pass under a scaffold, protective screens must be placed over all open sides between the baseboard and the upper railing, to prevent tools and materials from falling.

If work is to be performed at levels which are higher than the scaffold, workers must be protected by installing a cover over the work platform.

Work on scaffolds is not allowed during sustained winds above 25 MPH or gusts above 30 MPH, electrical storms within red or yellow zones as indicated on lightning detectors and when snow, hail, or rain hazards exist as determined by HSLP and the Supervisor.

The work platforms must remain free of debris, oil, water, or an excessive pile-up of tools and materials.

## Inspections and Tags

A competent supervisor must inspect scaffolds on a daily basis before use as well as after rain, snow, hail, earthquake, or after prolonged interruption of work in order to ensure its structural integrity using the checklist.

The supervisor must certify inspections by his/her signature and placement of the appropriate tag.

All scaffolds must be visibly tagged in the ladder access of the first section of the scaffold to indicate their condition according to the Tag Colors listed:

- a** Red Tag – DO NOT USE: This tag is used during installation, disassembly, modification or when scaffold is not in use.
- b** Yellow Tag – MAY USE WITH APPROPRIATE FALL PROTECTION: After the competent supervisor has inspected the scaffold, and determined the scaffold can be used for work with appropriate fall protection, the red tag is replaced with a yellow tag.
  - Appropriate fall protection shall be used by all personnel on the scaffold.
  - This tag is used for most scaffolding, generally, any scaffolding from which personnel are required to perform work from.
  - This tag is also used when there may be sections of the scaffold that have all critical structural components but may not meet handrail or mid-rail requirements because of structure interference.
- c** Green Tag – MAY BE USED FOR ACCESS: After the competent supervisor has inspected the scaffold, and determined all requirements are met with handrails, toe-boards, structural integrity, etc., the red or yellow tag is replaced with a green tag indicating that the scaffold is ready for use.
  - This tag is used for scaffolds erected to provide access and travel ways to work areas, and is not to be used on scaffolding or work platforms from which work is performed.

Only the relevant competent supervisor responsible for the work is allowed to place or remove these tags.

Any scaffold not tagged shall be considered unsafe for use and will not be used. The supervisor must be notified of untagged scaffold.

## Mobile Scaffolds

In the case of mobile scaffolds, the brake mechanism controlling all wheels must be in good condition and must be engaged when the scaffold is in the work position. Additional wedges must be placed on the wheels of mobile scaffolds.

Mobile scaffolds must not be used on inclined surfaces.

No one is allowed to be on the scaffold while it is being moved.

All materials and tools must be removed before moving a mobile scaffold.

Before and during relocation of a scaffold, it must be ensured that no people are in the area.

When using a man-basket or raised platform, it is mandatory to wear fall protection equipment if such protection is not included and maintained in its original design.

### **Construction**

Only scaffolds made of metal tubing are allowed.

If a scaffold of a different type of material is to be used, or the scaffold is to be modified, it must previously be coordinated with the COMPANY HSLP by submitting Project Change Management form associated with Change Management and attaching the corresponding structural analysis for approval.

The scaffolds and their components must be able to carry at least four times the estimated load.

Any component of the scaffold that is damaged or weakened must be replaced immediately as authorized by the relevant supervisor.

### **Crosstree**

Scaffolds must be secured by crosstrees on both sides of the body.

The crosstrees must be of the appropriate length to ensure that the scaffold remains vertical and firm.

Crosstrees must never be used as steps.

### **Ladders and Rest Platforms**

No portable ladders can be leaned against any member of the scaffold.

Ladder steps must have a separation no greater than 16". Spacing between steps may vary at the structural joints but not to exceed 16".

A rest platform must be installed for every three bodies. It must cover the total width of the scaffold and must be fastened similar to the work platform.

### **Railings and Baseboards**

Railings and baseboards are required for all open sides of work platforms.

Railings must consist of 3/8" steel pipes or cables, with a resistance of 200 lbs located at a height of 42 inches and 24 inches respectively, from the scaffold platform.

Baseboards must be wood, metal, or wire mesh. They must be well secured, of substantial strength, and must have no more than a maximum opening of 1/4", with the top side reaching a height of 4", measured from the platform or walkway.

## **Structural Assembly**

The struts of the scaffolds must be vertical, braced to prevent oscillations or swaying, and must have a minimum separation of 84 inches.

The base of the scaffold must be solid and rigid, able to support the entire weight of the structure and at least four times the estimated load. Transverse rails with minimum dimensions of 1" x 12" x 12" must be used for each strut in contact with the ground in order to prevent sinking.

If the bases are adjustable they must not be completely extended.

The structural joints of the scaffold require the use of pins especially designed for the purpose. Nails, bent wires or any other material must never be used.

All scaffolds must be equipped with guys in order to stabilize the structure. To accomplish this, a 3/4" synthetic cord must be used, either bolted to the ground or to a fixed structure. Never use mobile equipment or parts for this purpose.

The guys must be installed on the upper end of each strut (four in total for each selected body), as per the following distribution:

- Four guys for the first body.
- Four guys for the last body.
- Four guys every three intermediate bodies.

Guys must have their own independent cord; i.e. one cord must not be used as a guy for two or more struts.

Guys holding the scaffold must be marked so they are visible. This marking must be used at the joint of the first and second body.

As an alternative to using guys the scaffold can be tied to an adjacent fixed structure, following the description noted above.

If two or more scaffolds are used side by side, they must be horizontally fastened to each other using pins or some other device that will prevent movement.

Any electrical equipment used in the work area must be properly insulated and grounded.

If work is done in an area with overhead electrical lines, moving equipment, chemicals, power must be disconnected or isolated before work can begin. Refer to specific procedures for power isolation.

If the scaffold is going to be modified in its original structure or going to be subject to any structural change, Project Change Management form associated with Change Management and the corresponding structural analysis must be submitted for approval to HSLP.

## **Work Platforms**

Boards forming part of a work platform must have minimum nominal dimensions of 2" x 10" fully covering the width of the scaffold.

Only certified scaffold planks wood or aluminum shall be used.

Boards must be free of knots, cracks, openings or other defects which can weaken them.

The support for the boards (transverse rails) must not be more than 7 ft. apart.

The boards making up the work platform must protrude over the end transverse rails by at least 8 inches, but not more than 12 inches. They must be secured with blocks and wire to prevent them from moving.

The boards comprising the work platform in scaffolds tied up horizontally must overlap a minimum distance of 12 inches and must be secured with blocks and nails, to prevent them from moving. In addition, molded rods must be placed in the joint to prevent people from tripping.

If an element different than boards are to be used, ask Loss Prevention for assistance.