



Majority of serious/ fatal fall-from-height accidents when working on bamboo scaffolds which may also pose a danger to the workers as well as general public in the vicinity are attributed to absence of suitable safety measures, including failure to establish a safe system of work, failure to provide suitable and safe working platforms/ means of support, failure to provide and ensure proper use of suitable fall arresting system, etc. The following safety measures are recommended for the construction industry stakeholders to follow and implement:

As Contractors/ Employers:

To prevent any workers/ employees undertaking work on the bamboo scaffolds from falling from height, the contractors/ employers should:

Providing Safe Means of Access/ Egress and Working Platforms

- Provide and maintain suitable and adequate safe means of access to and egress from every place of work;
- Provide and ensure the proper use of bamboo scaffolds with working platforms which should be safe for the purpose. The width of the working platforms should be not less than 400mm;
- Ensure that every working platform on the bamboo scaffold is closely boarded or planked; and that every board or plank is of sound construction, adequate strength and free from patent defect, rests securely and evenly on its supports, and is of a thickness capable of affording adequate security having regard to the distance between the supports. Every board or plank forming part of a working platform should not protrude beyond its end support to a distance exceeding 150mm unless it is sufficiently secured to prevent tipping;
- Install guard-rails and toe-boards at edges of the working platform where persons are liable to fall from height. The guard-rails should have adequate strength and be securely fixed. The height of a top guard-rail should be between 900mm and 1,150mm above the platform. The height of an intermediate guard-rail should be between 450mm and 600mm above the platform. Otherwise, the platforms should be protected by not less than 2 horizontal bamboo members of the scaffolds spaced at intervals between 750mm to 900mm. The height of a toe-boards or other similar barriers erected on the platforms should not be less than 200mm;
- Ensure no scaffold is erected, added to, altered and dismantled except by trained workmen under the direct supervision of competent persons; and
- Ensure that every scaffold is inspected and certified safe by a competent person before being taken into use for the first time, after any substantial addition, partial dismantling or other alteration of it, after any exposure to weather conditions likely to have affected its strength or stability or to have displaced any part of it, and at regular intervals not exceeding 14 days.



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- Provide adequate putlogs (i.e. transoms) at bamboo scaffolds. Putlogs should be provided at a horizontal spacing not greater than 3.0m. At a height less than 100m above ground, the vertical spacing of putlogs should not be greater than 6.3m while at a height of 100m or more, and the vertical spacing should not be greater than 4.2m.
- Provide a sloping catch-fan at not more than 15m vertical intervals to give a minimum horizontal projection coverage of 1,500mm. The catch-fans should be properly maintained to prevent passers-by from being injured by falling materials; and
- Do not store materials on the catch-fans.

Conducting Task-specific Risk Assessment

- Appoint a competent person to conduct task-specific risk assessments to identify all potential hazards that are associated with the work being carried out; and
- Formulate safe work methods, safe work procedures for the work and relevant safety measures, taking into consideration the results of the risk assessments and the requirements of relevant codes of practice and guidelines.

Providing Training and Supervision

- Provide all workers/ employees concerned with the necessary safety information, instruction and training, and ensure that they are familiar with the safe working procedures and safety measures before they are assigned to work on the bamboo scaffolds; and
- Establish and implement an effective monitoring and control system to ensure all safety measures are strictly implemented.

Providing Fall Arresting System

- If the provision of working platform is not reasonably practicable, set up a fall arresting system by providing every worker/ employee with a suitable safety harness which should be continuously attached to a suitable and secure anchorage point, an independent lifeline or a fall arresting system from a safe place before proceeding to and leaving the place of work and throughout the work, and take steps to ensure that the fall arresting system is properly used by every worker concerned.



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As Safety Practitioner:

Safety Practitioners should assist their employers/ clients to:

- Conduct task-specific risk assessments of work-at-height, and advise the suitable control measures for falling hazards;
- Provide safety training on working on bamboo scaffolds to relevant persons/ workers, including the safety measures and safety rules;
- Develop and implement effective proactive inspection programme on compliance checking and reporting of non-compliance of safety requirements; and assist the site management to remedy any unsafe conditions; and
- Formulate an appropriate inspection check-list by making reference to the Safety Guidance for Working at Height in Construction Industry 「建造業高空工作安全須知」 (with Chinese Version only) published by the Occupational Safety and Health Council.

As Subcontractor:

- Properly lay the working platforms and toe-boards on the bamboo scaffolds according to the instructions and requirements of the Main Contractors and maintaining their safe condition before instructing their workers to work on the scaffolds;
- Appoint a person to communicate and coordinate with the Main Contractors' site management team;
- Establish a monitoring system that should be strictly implemented to ensure that the working platforms and toe-boards are properly laid; and
- Ensure the working platforms are used properly

As Workers or Persons who Need to Work on the Bamboo Scaffolds:

- Do not use substandard or not properly erected bamboo scaffolds/ working platforms;
- Use safe access to and egress from the place of work;
- No alteration, addition or dismantling of bamboo scaffold should be allowed without authorization;
- If the scaffold is defective or the safety of which is in doubt, leave the bamboo scaffold immediately and inform the Main Contractor to take appropriate follow-up actions;
- Tightly control the loading imposed on the scaffolds during the execution of work on it. Do not overload the bamboo scaffolds;



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- If use of fall arresting system and safety harness are required, workers/ employees should continuously attach their safety harnesses to a suitable and secure anchorage point, an independent lifeline or a fall arresting system from a safe place before proceeding to and leaving the place of work and throughout the work; and
- Wear suitable safety helmets with chin straps complying with relevant standards. Be aware of the expiry date of the safety helmets and do not wear helmets that have already expired.

Reference Materials:

- Guidelines on Planking Arrangement for Providing Working Platforms on Bamboo Scaffolds, Construction Industry Council, May 2014
- Safety Poster – Working at Height Safety, Construction Industry Council, P-CSY-001-14
- Safety Poster – Tips of Using Safety Helmets, Construction Industry Council, P-CSY-002-15
- A Guide to the Provisions for Safe Places of Work under Part VA of the Construction Sites (Safety) Regulations, Labour Department, 1/2005
- Code of Practice for Bamboo Scaffolding Safety, Labour Department, 06/2014
- Guidance Notes on Classification and Use of Safety Belts and their Anchorage Systems, Labour Department 01/2005
- A Casebook of Fatal Accidents Related to Work-at-Height, Labour Department 12/2014
- Work Safety Alert – Fall from Upper Floor of a Superstructure, Labour Department 03/2017
- Systemic Safety Alert – Work at Height, Labour Department, SSA-01/2014
- Guidelines on the Design and Construction of Bamboo Scaffolds, Buildings Department, 05/2006
- Safety Guidance for Working at Height in Construction Industry (建造業高空工作安全須知), with Chinese version only, Occupational Safety and Health Council, 07/2012



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