

Hello, everyone

The Labour Department seems to be hostile to all of you in terms of law enforcement,

but it is actually not the case,

there is room for negotiation

Like today's occasion, thanks to the Housing Department,

to provide an opportunity for me to talk about the safety of bamboo scaffolding

The construction industry is an important industry in Hong Kong,

but there were accidents in the past

Around there were 2,700 to 3,700 accidents cases every year in the past 10 years, which is a very high figure

Those related to fall of person from the height

cannot be ignored

It is about ten percent of the accidents in the construction industry,

one out of every ten accidents is fall of person from a height

Fatal industrial accidents occur every year

There were fewer fatal accidents in 2010 and 9 fatal accidents occurred in that year,

whereas the number of fatal accidents went up to 24 cases in other years

Fatal accidents caused by the fall of person from height are

the majority

There are around 6 to 15 cases,

Based on this, there are around five fatal cases in every thousand cases

For every 100 cases of fall of person from height,

around 2 to 3 people were dead

After our study, the main reasons

can be concluded into four points

First, collapsing of working platforms, temporary scaffolds, and bamboo scaffolds

The second point is about the lack of guardrails on the edge of the floor, working platforms and temporary scaffolds

The third point is about the use of ladders for work

The ladder overturned when they were working on it

and they fell down from the ladder as they lost the balance leading to fatal accidents

Fourth, the workers did not use personal fall arresting equipment

For working at height,

Construction Sites (Safety) (Amendment) Regulations have been implemented and amended in 2003

Labour Department is committed to enforcing the law

The law is targetted for the responsible contractors on the construction sites and

the contractors which directly control construction projects

For Section 38A, it is about working at height

The first subsection is to find out, correct and avoid

the potential risks encountered by people working at the height

In the second subsection, when workers are working on construction sites, the contractors need to provide appropriate and adequate safe entrances and exits, and the entrance and exit should be properly maintained

With proper entrance and exit point, we can start to work

We have to take adequate precautionary measures in our workplace

to prevent anyone from falling down from a height not less than 2 meters

Enough steps including setting up working platforms, guardrails, barriers, toe board and fence

There are covers for the holes and wooden board gangways for

setting up the working platforms and protection railing just mentioned

The barrier, toe board and guardrails,

openings, wooden board access and gangways need to meet

the requirements of Schedule 3 under the Regulation

This covers the construction of opening covers

to prevent falling of people and materials,

the covers should be clearly marked in bold type,

and it has to be placed securely and could not be moved easily

the second is the toe board

of which the requirement is not less than 200mm in height

For the height of the guardrails on the working platforms,

the top one is from 900 to 1150 mm

and the middle one is between 450mm to 600 mm

However there are exceptions,

such as bamboo scaffolding

The height difference between two horizontal bamboo members is from 750mm to 900mm,

The platform cannot be less than 400mm in terms of width

The width of platform required for moving of materials should not be less than 650mm

The platform need to be fully covered by plywood or wooden board

For the board requirements, if the thickness is not less than 25 mm,

then the width must be equal to or greater than 200mm

If the thickness exceeds 50mm,

the width must be equal to or greater than 150mm

Of course, the strength of the board must be adequate,
no obvious defect and damage

Apart from the requirements for the wooden board, is it possible for suspension
when you place the board?

Three points of support are required on the wooden boards when we place them on
the bamboo scaffolding

The wooden board cannot project for more than 150mm
part from the wooden board, for material such as metal plate,
the opening cannot exceed 4000 square millimeters,
and it cannot be moved easily and need to be stuck firmly

The gap between two wooden boards cannot exceed 25mm

Malpractice is common and we have no other options
besides enforcing prosecutions

Obviously, such situations do not meet the requirements of Regulation 38B

No wooden boards, no working platforms, no toe boards, insufficient fences, etc.

If the working position is more than 2 meters above the floor level,
no matter on the ground or

you cannot perform the work at height safely,

We all need to provide safe scaffold
for workers to use.

What is a safe scaffold?

A safe scaffold should be designed and constructed so that
it will not collapse, topple or move accidentally,
and it is required to be built with proper materials

I just mentioned the requirements of the thickness and the width
along with sufficient strength and the loading capacity

When repair is needed, try to get it done as soon as possible

If it is erected, dismantled and altered,

for example, erection, dismantling and altering a scaffold,

we need a well-trained, qualified and experienced worker to execute the work

A competent person is required to supervise the erection, dismantling
or alteration of a scaffold directly

After erection, we required a competent person to conduct inspection,
after the erection, before the first time of usage,

alteration, extension, partial dismantling,

or affected by inclement weather and every 14 days

After the inspection, complete Form 5 to signify approval,
and indicate the safe working condition on the Form 5

before the scaffold can be used

In some cases, scaffolds are not suitable for usage

We need to provide safety harnesses for the workers,

the safety harnesses need to be anchored on a secure position

If it violates the law as mentioned above,

the contractor may be penalized with a maximum fine of \$200,000

and imprisonment for 12 months

For violating the law concerning the proper use of safety harness,

you may be convicted with the maximum fine of \$10,000

Anyone who endangers the others or oneself,

he or she may be convicted with the maximum fine of \$50,000

In regard to the work at height, the Labour Department

has developed a code of practice on safe use of bamboo scaffolding

Just highlight two points,

first, trained workers

second, competent person

What is a competent person?

The code of practice has detailed descriptions

Trained workers are required to undergo formal bamboo scaffolding work training,

for example, get a pass

in the bamboo scaffolder skill test

held by the Construction Industry Council Training Academy

and have an experience of not less than one year

in bamboo scaffolding work

or under the "Construction Workers Registration Ordinance",

registered as skilled or semi-skilled workers in the bamboo scaffolding trade

For skilled (temporary) and semi-skilled (temporary) bamboo scaffolders,

we shall recognize them as trained workers

Eligible persons have to complete the bamboo scaffolding work training,

including the bamboo scaffolding apprenticeship training under

the provisions of the "Apprenticeship Ordinance",

One-year full-time construction of scaffolding basic course

organized by the Construction Industry Council Training Academy,

or similar bamboo scaffolding trainings or programmes

or get a pass in the bamboo scaffolder skill test

organized by the Construction Industry Council Training Academy,

along with 10 years of experience related to bamboo scaffolding

He can read and understand the scaffolding plan and drawings,

understand the scaffolding facilities, construction methods,
with adequate ability to supervise the workers,
in order to be a competent person

The contractor needs to specify in writing,
who is a competent person

The assigned person needs to develop effective measures
and anticipate the potential risks

Besides the double layers of scaffold, we also have the metal hanger
which is commonly used in truss-out scaffold in the industry

Concerning the safety of the truss-out scaffold,
we need to provide a full body safety harness,
with the provision of an independent lifeline and fall arrester
as a connection

The photo shows the conditions and requirements for erection, dismantling and
alteration of the scaffold,

including the metal hanger each requires three anchor bolts

If it is not possible, it must be designed by professional engineers
to prove the safety of the scaffold

There are also trained scaffolders

who are required to wear safety harness and connect to the lifeline during their work
under the supervision by competent persons

the completed scaffold still requires three bolts for each metal hanger when in use

Competent person should check the scaffold to verify its safety

Workers need to wear safety harnesses with connection to the lifelines

Safety harnesses and lifelines are also subjected to inspection
to prove their strength

These are the general requirements of the Labour Department

For fulfilling the requirements of bamboo scaffolding and truss-out scaffolding
perfectly and effectively,

the contractor is required to establish a safety management system and safe system
of work

Included six points as below,

firstly, design and plan at the beginning stage

secondly, select scaffolding contractors to carry out scaffolding works

thirdly, site management and procedures

fourthly, the workplace and the access

fifthly, monitor safety performance, including safety performance of the workers

sixthly, it is necessary to provide training for scaffolding workers

Firstly, design and plan at the beginning stage,
For planning, it is necessary to study for the construction methods, procedures and arrangements to
reduce risks

For example, please refer to the Buildings Department
Code of Practice on Wind Effects in Hong Kong 2004
for the wind load capacity of scaffolding

In addition, the scaffolding contractors
are required to add the relevant safety planning in the scaffolding contract
and the special requirements and important information
in the construction of scaffold

Thirdly, for the scaffolding works
it is necessary to design effective communication channels and systems
to identify the potential hazards and risks
that will affect the safety of scaffolding work

Next, draft a preliminary construction method statement

For selection of sub-contractors for scaffolding work,
we have to consider whether the sub-contractor will adopt safety measures
adequately
and health measures too

This is an important criterion for our selection

In the selection process, we require sub-contractors
to submit the scaffolding plan outline

For the selected sub-contractor,

he needs to set up a scaffolding draft and develop a detailed scaffolding plan

For site management and procedural aspects,

We need to develop and apply detailed construction method statement,
conduct comprehensive and active coordination of the contract within and out of the
construction site

Implement and maintain communication effectively,
devise contingency plan for inclement weather,
provide suitable workers,
and protective equipment

Assign an appropriate place

for the storage of scaffolding materials, tools and equipment

as mentioned before, there should be an access and egress for the workplace

Construction method statement is required for the working platform of the
scaffolding

According to the legislation, toe boards and fences are required
You can refer to the publication of Hong Kong Construction Industry Council
Guidelines on Planking Arrangement for Providing Working Platforms on Bamboo
Scaffolds

We need to enforce the laying of the plank and the toe board
to fulfill the responsibility of providing a safe working platform
We need to provide appropriate (well constructed, adequately strong
and thick) and sufficient numbers of planks,

with assigned places for the storage of the planks,
to ensure the workers' access to the required materials efficiently
Do not lock

Ensure construction safety when you arrange to set up the boards
Proper setup and safety conditions are maintained

After the completion of the working platform, a qualified person is required to check
the strength and stability of the working platform

For the supervision of the workers,
Workers need to provide information and guidance,
training and supervision

If the material damaged, we need to replace it as soon as possible

Apart from the working platform mentioned in the law just now,
It is not feasible to build the working platform in certain construction sites

In the case of infeasibility,
Safety net or safety belt can be used

Both are required to comply with the safety standard
You can refer to national or international regulations

Apart from the protection of the scaffolding,
we need to avoid the falling down of the objects from a height

We have to install slant shed and protective curtain
The vertical distance of the sloping shed cannot exceed 15 meters

If it is more than 15 meters, there must be two sloping shed protection
Horizontally, the size of the sloping shed is able to extend with a minimum of
1500mm

The surface covered with wood and galvanized iron
To ensure that it can afford the stuff fallen down from the height
Protection curtain was made by the materials of delayed combustion
It should cover the extent of the fallen down objects

Monitoring safety performance
When the workers work, the contractor must comply with

the conditions in the contract

Add the rules on compliance with safety regulations

Record the site condition regularly after checking

Encourage workers to share their comments on site safety

When they work, they share the places where we need to build scaffolding, a working platform, ingress or egress

Establish a monitoring system on the construction site, to implement and maintain monitoring the site safety

Training of the scaffolders

As already mentioned before, I will not elaborate in details

Apart from the Code of Practice on Bamboo Scaffolding Safety and the specific provisions for bamboo scaffolding,

you can also refer to the Labour Department's Code of Practice on Safety Management

You can establish the safety management system

If the bamboo scaffold exceeds 15 meters

The stability of the bamboo scaffold should be verified by a professional engineer.

Let me share a few of accidents with you

A worker lost his balance when climbing a scaffold, fell from height and died finally

We need to set up appropriate and adequate safe access and egress under the regulations

When the workers need to move on the scaffold, they have to attach the safety harness to the lifelines at the same time

In another case, when a worker dismantled a truss-out scaffold, the bolts for the metal bracket are not sufficient

The metal bracket loosened suddenly, causing the workers to fall to death from height

Three bolts are required to stabilize each metal

When you are erecting, dismantling, altering scaffold, you need to fasten the safety harness to the lifeline and carried out the erection, alteration and dismantling work of scaffold under supervision by competent persons

In the third case, the worker used a truss-out scaffold for repairing water seepage. He fell down from the bamboo truss-out scaffold and died

Prevention method is to build a sound working platform

Personal fall arresting equipment is very important

It is the brief introduction today

For more inquiries, please call the hotline
25592297, all of you are welcomed for any inquiries
Best wishes for safe working and happy life
Thank you for your attention