

Inspection campaign

In 2009 WorkSafe, along with workplace safety authorities across Australia took part in a nationally coordinated targeted intervention campaign to improve scaffolding safety in the construction industry.

The checklists used by WorkSafe inspectors during this campaign are included in this newsletter. Please use the checklists to ensure your workplace meets the occupation safety and health legislation.

Guidance note: Falls from scaffolding

There is the potential for scaffolders to fall from incomplete scaffolds during their erection and dismantling. In particular, scaffolders can be exposed to fall hazards during the placement or removal of scaffold planks; from the open sides or ends of the scaffold; and in climbing from one lift of the scaffold to the next lift.

The Commission for Occupational Safety and Health recently released a *Guidance note: Falls from scaffolding*.

The guidance note has been adapted from guidance material published by WorkSafe Victoria and modified to reflect Western Australian terminology and practice. The material was developed in consultation with Construction Industry Safety Advisory Committee which is made up of representatives from the Housing Industry Association, Master Builders Association, UnionsWA and WorkSafe.

This guidance note deals specifically with the erection and dismantling of typical independent scaffolds constructed from prefabricated modular scaffolding systems. It may not be appropriate for unorthodox or unusual scaffold configurations, such as large birdcage scaffolds. Work practices for such scaffolds should be developed by employers on a case-by-case basis in consultation with scaffolders, safety and health representatives (where they exist) and workers who may use the scaffold to carry out their work.

For more information go to www.worksafe.wa.gov.au – publications – guidance notes

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Scaffolding must meet Australian Standards

During the campaign inspectors will be visiting sites and will be inspecting scaffolding to see if it meets the following Australian Standards

AS/NZS 1576.1 -	General requirements
AS/NZS 1576.2 -	Couplers and accessories
AS/NZS 1576.3 -	Prefabricated and tube-and-coupler scaffolding
AS/NZS 1576.4 -	Suspended scaffolding
AS/NZS 1576.5 -	Prefabricated Splithead and trestles
AS/NZS 1576.6 -	Metal tube-and-coupler scaffolding – deemed to comply with AS/NZ 1576.3
AS 1577:1993 -	Scaffold planks
AS/NZS 4576:1995 -	Guidelines for scaffolding

Incidents involving scaffolding

Mobile scaffold collapse

A fourth year electrical apprentice suffered a broken right arm when an aluminium mobile scaffold on hire collapsed whilst he was working from it.

The collar locking device on the base frame was not properly engaged in the lower position to lock the threaded leg, which allowed the base frame to slip down the threaded leg causing an imbalance sufficient to topple the scaffold.

The collar locking mechanism can be a hazard if operators do not engage the lock correctly. They are progressively being phased out in favour of an adjustable leg that has a compression-locking device, which engages when a weight is applied to the assembled scaffold.

Factors

1. Persons erecting the scaffold did not ensure the collar lock was engaged in the locked (lower) position of the base frame sleeve to the threaded leg of the castor assembly.
2. Persons erecting the scaffold were carrying out 'prescribed work' (erecting a scaffold from which a person or thing could fall more than 4 metres) and were not competent (certificated scaffolders) to perform that work.
3. Persons erecting the scaffold had no prior instruction or training in the erection of scaffolding.
4. Uncertificated persons carrying out this work must be directly supervised by a certificated scaffolder.
5. The scaffold was moved and then altered without the authority of the main contractor.

Incidents involving scaffolding cont...

Scaffold mesh panel failure

A self employed plasterer sustained serious head and back injuries after he fell approximately 4.2 metres from a framed scaffold at a two storey residential construction site.

The erected scaffold had mesh panel type edge protection along the working platform. These mesh panels were attached to the guardrail posts of the scaffold by way of butt welded locating tags.

At the time of the accident the plasterer was leaning against the mesh panel when one of the locating tags snapped at the weld, creating an open edge.

Factors to consider

- The age and condition of locating tag attachments on mesh panels
- Rust around weld areas to scaffold components
- Cracking to weld areas of scaffold components
- Maintenance of scaffold components
- Site conditions such as corrosive locations (proximity to the coast).

Recommendations

1. Incorporation of a quality control system for the delivery, return and maintenance of scaffolding.
2. Record keeping of all tests, maintenance, inspections, commissioning and alterations to scaffold components.
3. Inspection of scaffold from which a person or object could fall more than 4 metres is inspected by a competent person at least every 30 days.
4. Ensure that scaffold equipment for use at a workplace complies with the relevant requirements of AS/NZS 1576 parts 1 to 6.
5. Conduct a risk assessment prior to using erected scaffolding.

New regulations for construction were introduced in 2008, requiring construction sites, amongst other things, to develop safe work method statements.

What information must be included in a safe work method statement (JSA) for 'high-risk construction work'?

Safe work method statements (also known as Job Safety Analyses or JSAs) for 'high-risk construction work' must, as far as practicable, set out:

- each high-risk construction work activity that either is or includes a hazard to which a person is likely to be exposed;
- the risk of injury or harm arising from those hazards;
- the safety measures to be implemented to reduce the risk(s), including the control measures to be applied;
- a description of the equipment used in the work activity; and
- any qualifications and/or training required to enable people to do the work safely.

The safe work method statements must be given to the main contractor before the 'high-risk construction work' starts at the site, and must be kept up to date as the project progresses.

What do the laws require?

- People identified by the main contractor as having day-to-day on-site control of 'high-risk construction work' must, as far as practicable, provide the main contractor with a written safe work method statement (also known as a Job Safety Analysis, or JSA) for all 'high-risk construction work' they manage or control at the site. If the main contractor cannot identify anyone with day-to-day on-site control of 'high-risk construction work' to prepare the necessary safe work method statement(s), then the main contractor must prepare the statement(s). The main contractor must ensure that there are measures in place to ensure, as far as practicable, that all 'high-risk construction work' done at the site is carried out in accordance with the relevant safe work method statement(s).
- Clients commissioning design and/or construction work as part of a trade or business (referred to in the new regulations as 'commercial clients') must consult with the designer and the main contractor to ensure, as far as practicable, that the construction work can be done without risk to safety and health.
- Designers must provide their 'commercial clients' with a written report on the occupational safety and health aspects of their designs. 'Commercial clients' must ensure, as far as practicable, that this information, together with any other occupational safety and health information they may receive regarding the construction project, is passed on to the main contractor and to anyone who obtains the end product of the construction work from the client.
- Main contractors must ensure, as far as practicable, that information in their control that relates to the hazard identification, risk assessment and risk control processes for a construction project is compiled, recorded and kept until the construction work is complete.
- Main contractors must ensure that a site-specific Occupational Safety and Health Management Plan is prepared for each construction site where five or more people are working, or are likely to be working, at the same time. The plan must be prepared before work starts at the construction site and must be kept up to date as the project progresses. Each person doing construction work at the site must be made aware of the plan and how it applies to their work.

General scaffolding safety checklist

Site address:	yes	no	n/a
1. Documentation:			
Is a hand over certificate available on site or such things as scaff tag			
Has steel wire mesh/ shade cloth or containment sheeting been provided where members of the public exposed to a risk of falling materials from the scaffolding			
Has steel wire mesh/ shade cloth or containment sheeting been provided where workers are exposed to a risk of falling materials from the scaffolding			
Where the working platform is less than 4m was it erected by a competent person			
Are procedures in place to inspect scaffolding every 30 days			
System in place to inspect the scaffolding after trades have used it eg form workers, concreters, bricklayers, tilers			
Is a work method statement or appropriate documentation available for the management of scaffolding on site once erected			
Is there a system in place to prevent damage from loads suspended from a crane and is it recorded in SWMS			
Have workers been inducted on the safe use of the scaffolding			
2. Supporting structure:			
Is the supporting structure in good condition and adequate strength/has it been assessed by a competent person/ engineers certificate obtained			
Is there a risk of the supporting structure being overloaded from other sources adequately controlled			
3. Foundation:			
Scaffolding erected on suitable foundation/footings e.g. not adjacent to trenches, excavation, underground services, soft ground			
Base plates used are a minimum 100mm x 100mm and 6mm thick			
If on soft ground are sole boards being used to distribute the load evenly eg unstable ground, gaps			
Are the sole boards continuous and where ever possible support 2 standards. and a minimum 220mm wide			
Are the sole boards a minimum 220mm wide			
Is packing used under sole boards suitable e.g. hard wood			
Screw Jacks not to extend more than 600 mm or as per manufacturers requirements			
4. Openings in scaffolding e.g. driveways:			
System in place to prevent scaffolding being struck by vehicles and or plant eg concrete blocks, guards, fenders, traffic management			
5. Steel wire mesh/shade cloth/containment sheeting/signage:			
Has the scaffolding been designed for wind loading where signage is being tied to the scaffolding			
Are the sheets adequately fixed/tied			
Are there any rips or gaps in sheeting			
Is there an engineers certificate for the ties			
Is there a minimum 50mm overlap			
Signs on scaffolding – any engineering calculations - wind loading design			

General scaffolding safety checklist cont...

Site address:	yes	no	n/a																
6. Over head power lines (OHPL):																			
Is the scaffolding erected close to OHPL																			
Has the OHPL been de energised																			
If the OHPL have not been de energised is there a system of work to ensure the scaffolding complies with local requirements during erection, altering, use and dismantling																			
7. Mixed components:																			
Are mixed components being used																			
Are they compatible																			
Engineers certificate available if required																			
8. Ties:																			
Have ties been installed as per manufacturers/suppliers instructions/information and AS/NZS 1576																			
System in place to monitor ties as other trades progress e.g. form workers, bricklaying, tilers etc																			
System in place to monitor ties as the structure is demolished																			
Do the ties pick up 2 standards or ledgers																			
Are single leg ties used –is relevant documentation available																			
Have 90° fittings been used (swivel fittings not to be used)																			
Are ties provided every 4m (vertically) in height																			
Are ties provided as per AS 1576 - Vertical = every 4m Horizontal = 3 rd bay																			
<table border="1"> <thead> <tr> <th>Height of scaffolding</th> <th>Between ground and 15m</th> <th>Between 15m and 30m</th> <th>Between 30 and 45m</th> </tr> </thead> <tbody> <tr> <td>< 15m</td> <td>Every 3rd standard</td> <td>-</td> <td>-</td> </tr> <tr> <td>15m – 30m</td> <td>Every 2nd standard</td> <td>Every 3rd standard</td> <td>-</td> </tr> <tr> <td>> 30m</td> <td>Every standard</td> <td>Every 2nd standard</td> <td>Every 3rd standard</td> </tr> </tbody> </table>	Height of scaffolding	Between ground and 15m	Between 15m and 30m	Between 30 and 45m	< 15m	Every 3 rd standard	-	-	15m – 30m	Every 2 nd standard	Every 3 rd standard	-	> 30m	Every standard	Every 2 nd standard	Every 3 rd standard			
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Where drilled in anchors being used are engineering drawings/calculations etc available on site																			
Do the ties obstruct access along the full length of the working and access platforms																			
9. Temporary ladders:																			
Are ladders adequately secured at the top and bottom																			
Is the ladder in good condition																			
Are ladders no less than 1:4 or no more than 1:6 slope																			
Is the ladder extended 900- 1000 mm above the landing platform																			
Are temporary ladders no > 6m between successive ladder landings																			

General scaffolding safety checklist cont...

Site address:	yes	no	n/a
10. Platforms (general):			
Are platforms free from obstruction			
Are planks in good condition and a minimum 220mm wide			
Do planks overhang supports by 150-300mm			
Are planks adequately secured where they overlap			
Are loads on any given platform evenly distributed			
Are standards correctly positioned ie staggered			
Is the duty of the scaffolding suitable for the task ie heavy, medium or light			
Is the scaffold width appropriate for the duty eg heavy duty 5 planks			
Are signs erected on the bays indicating duty of the bay/s (ie scaffold tag)			
Are any of the platform bays being used to stack/store materials eg bricks, F.Work			
Does the weight of these material exceed the rated WLL per platform bay			
Is there any materiel etc being stacked/stored above the height of the guardrail			
Is there any signage indicating scaffolding incomplete where required			
Are openings at working platform level covered and secured eg plywood (17mm), planks			
11. Temporary stairways:			
Has separate stairway access been provided to access scaffolding			
Is the stairway a minimum 500mm wide			
Is the access landing a minimum 500mm x 450mm			
Is a handrail provided along each the stairway			
12. Bracing:			
Has face bracing been provided i.e. longitudinal at no more than 3 bays apart, unless otherwise specified			
Has been provided at the end of the scaffolding ie transverse bracing			
Does the bracing extend the full height of the scaffolding			



General scaffolding safety checklist cont...

Site address:	yes	no	n/a
Hop up brackets:			
If hop up brackets are 500mm above or below the working platform has adequate fall prevention been provided			
13. Access:			
Is the access along the working platform - minimum 450mm wide for persons and tools only (2 planks)			
Is the access along the working platform - minimum 675mm wide for persons and materials (3 planks)			
Are incomplete scaffolding platforms etc blocked off and or signs used			
Is there suitable access to and from the working platform eg from the building to the scaffold			
Is there safe access between working platform during use, erection and dismantling			
14. Edge protection:			
Is edge protection provided where a person or object could fall (2m or more)			
Handrail, midrail and toe board or brick guard provided			
Where guardrails and toeboards (150mm) only are being used is a suitable infill such as brick guards or infill panels being used			
Are guardrails erected between 900mm and 1100mm above the platform			
Where brick guards are being used is the mesh aperture no > 50mm x 50mm			
Where the gap between scaffolding and supporting structure is > 225mm has edge protection been provided			
15. Workers using the scaffolding:			
Do the workers on site using the scaffolding alter the scaffolding themselves			
Are the workers on site that are using the scaffolding aware that any alterations to the scaffolding is to be done by a scaffolder			



Suspended scaffolding safety checklist			
Site address:	yes	no	n/a
1. Documentation and procedures:			
Hand over certificate provided and available on site scaffold tag			
Are the daily pre operation checks being carried out and recorded in a log book			
Are procedures in place to inspect the scaffolding every 30 days			
Are procedures in place to inspect the scaffolding every time it is altered/moved			
Has the suspended stage been erected by a certificated person as per drawings/instructions			
Has the necessary written instructions and checklists been provided to the user eg safety equipment, emergency procedures, communication			
Have the operators been trained in the safe use of the suspended scaffolding eg safety equipment, emergency procedures, communication			
Has the operators been inducted on the use of the suspended scaffolding			
Are drawings/calculations available on-site for such things as the suspension rig design and number of counter weights per needle			
Are drawings available where the needles are supported by scaffolding tubing			
Are daily pre operational checks carried out prior to the swinging stage being used and recorded in a log book			
Is there effective means of communication between the occupants of the suspended scaffolding and those at ground level			
Is the maintenance records available on site for all components eg cradle, hoists, ropes etc			
Does the cradle have a compliance plate			
2. Cradle			
Is the cradle assembled correctly and in good repair with no obvious defects eg cracked welds			
Is there a system in place to prevent the cradle from coming into contact with the structure			
Is there safe access along the entire length of the platform			
SWL/WLL clearly marked on the cradle			
Is there a system in place to prevent overloading of the cradle			
Is there a system in place to prevent the suspended scaffolding coming into contact with OHPL (over head power lines)			
Is there a system in place to prevent lateral movement			
Is the width of the platform between 450mm and 900mm			
Is there a system to secure the suspended scaffolding stage when it is not in use			
Is a guardrail, midrail and toeboard provided along the length of the platform			
Where access and egress is not from ground level is the cradle secured to prevent movement			

Suspended scaffolding safety checklist cont...

Site address:	yes	no	n/a
3. Access:			
Has safe access been provided for workers to enter and leave the cradle from ground level			
Where access and egress is not from ground level has suitable fall protection been provided eg harnesses and (2) lanyards (per harness) been provided			
Is there a safe point of attachment for harnesses if being worn			
Where access and egress is not from ground level has the cradle been secured against movement			
4. Suspension rig counter weights:			
Are the counter weights individually labelled with their weight in kgs			
Are the counter weights installed as per design/drawings			
Are the counter weights purpose designed			
Are they secured to the needles so that removal requires the use of a tool			
5. Suspension rig - needles and supporting beams:			
Has the suspended scaffolding been erected as per drawings/instructions			
Is the outboard ends of the needles higher than the inboard ends			
Do the needles have a positively fixed stop at the end of each needle to prevent ropes from slipping off			
Are anchorage bolts used in conjunction with lock-nuts			
NB – friction anchors and chemically inserted anchors <i>are not</i> to be used			
Are chains/slings protected if running over sharp edges			
Is there a primary and secondary rope fitted to each needle			
Are all wire ropes independently attached to the suspension rig			
Is excess rope allowed to hang freely below the cradle, or inserted into a rope winder to prevent kinking			
For long periods of time is the excess rope and cables stored in the cradle			
Are unauthorised person prevented from accessing the suspension rig			
6. Hoists:			
Are the scaffolding hoists in good condition with no obvious damage/defects			
Has weather proof covers been provided for hoists			
Is the wire rope being used the correct size and type for the hoist (refer to compliance plate)			
Is each hoist provided with a secondary protection device			

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Suspended scaffolding safety checklist cont...

Site address:	yes	no	n/a
7. Falling materials:			
Has the area below the suspended scaffolding been blocked/barricaded off to prevent persons being hit by falling materials			
Is there a system in place to prevent hand tools from falling out of the platform e.g. tool lanyard or meshing cradle			
8. Electrical:			
Has a adequate power supply been provided for the suspended scaffolding			
Is there easy access to the power supply switch board			
Has the electrical cable been installed to prevent accidental removal from the switchboard			
Are unauthorised persons prevented from accessing the electrical supply board			
Does the suspended electrical cable have adequate running clearance			
Is the suspended electrical cable of sufficient length and correct size			
Is there a system place to prevent damage to electrical cables			
Have all the electrical leads/components etc been tested as required by each state			
Is the central control box fully enclosed, lockable, shatterproof and water proof			
Are the operating buttons/levers of a "dead man" type			

