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# Preamble

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This Hazard Profile is a tool to assist in the identification of occupational health and safety (OHS) hazards in relation to aluminium mobile scaffolds.

This tool is one of a series of Hazard Profiles developed by the University of New South Wales School of Safety Science and Building Research Centre in support of the Construction Memorandum of Understanding (MOU). The MOU was signed in 1998 between the NSW Government and the Chief Executive Officers of the principal contractors and major industry associations in the NSW construction industry.

The signatories to the MOU have worked in partnership to implement measures to improve the construction industry's OHS and injury management performance.

The Hazard Profiles were developed following interviews with principal contractors and subcontractors, which highlighted the accurate identification of hazards as a significant weakness in the successful management of subcontractor safety.

Hazard Profiles can be used as a guide to help:

1. identify generic hazards and the controls required for a job task;
2. assist in formulating relevant and effective safe work method statements;
3. guide or induct new workers in the typical hazards for a specific trade;
4. check that all general trade specific hazards have been identified in safety documentation required by the principal contractor.

Other products developed under the auspices of the Construction MOU include:

1. Subby Pack: OHS Contractor Management Tool
2. CHAIR: Safety in Design Tool
3. Hazard Profile: Identification Tool for Metal Roofing  
Identification Tool for Electrical Hazards on-site  
Identification Tool for Formwork  
Identification Tool for Bricklaying  
Identification Tool for Steel Reinforcement Fixing  
Identification Tool for Concrete Placement  
Identification Tool for Demolition
4. Supervisor Manual: OHS Training Tool
5. Safety Meter: Positive Performance Measurement Tool

Another valuable tool to assist small and medium-sized businesses to systematically manage safety is WorkCover's *Workplace Safety Kit*.

More information about each of these products can be obtained by contacting WorkCover NSW on 131050 or [www.workcover.nsw.gov.au](http://www.workcover.nsw.gov.au).

# Hazard Profile – Aluminium Mobile Scaffolding

Job Activity (Tasks)	What Can Harm You (Hazards)	What Can Happen (Risks)	Causes Which Need to be Managed (Controlled)
<b>General planning</b>	Inadequate training, inadequate planning, consultation and improvisation.	Injury due to inexperience or failure to provide or use appropriate equipment.	<ul style="list-style-type: none"> <li>• Insufficient skills (competency) to complete the required task correctly.</li> <li>• Inadequate consultation with relevant employees.</li> <li>• Competent person not used for scaffold erection up to 4 metres in height (class SB).</li> <li>• Qualified (ticketed) scaffolder not used to erect scaffold in excess of 4 metres in height or where complex configurations are involved.</li> </ul>
	Unstable scaffold due to lack of competency in erection.	Injury due to scaffold collapse or partial collapse.	<ul style="list-style-type: none"> <li>• Competent person not used for scaffold erection up to 4 metres in height.</li> <li>• Qualified (ticketed) scaffolder not used to erect scaffold where the working platform exceeds 4 metres height (class SB) in height or if the scaffold has cantilevers or outriggers.</li> <li>• Foundation or ground not suitable for mobile scaffold.</li> <li>• Different scaffold systems mixed together. (mix and match problems)</li> </ul>
	Overload of scaffold components.	Collapse causing fall from height.	<ul style="list-style-type: none"> <li>• Wrong type of scaffold used for the job – light duty use only.</li> <li>• Scaffold components overloaded beyond design limits.</li> <li>• Different scaffold systems mixed together. (mix and match problems).</li> </ul>
	Unstable or incorrect erection of scaffold.	Injury due to scaffold collapse or partial collapse.	<ul style="list-style-type: none"> <li>• Instructions are not provided, or are not clear – print is too small and/or photocopy cannot be accurately followed.</li> <li>• Scaffold poorly maintained by supplier – colour coding referred to in instructions is not visible on components.</li> <li>• Damaged scaffold</li> </ul>

<b>Job Activity (Tasks)</b>	<b>What Can Harm You (Hazards)</b>	<b>What Can Happen (Risks)</b>	<b>Causes Which Need to be Managed (Controlled)</b>
			components supplied.
<b>Planning by Principal Contractor or Subcontractor depending on contract conditions</b>	Live electricity too close to scaffold erection or completed scaffold is moved too close during use.	Electric shock or electrocution.	<ul style="list-style-type: none"> <li>• Earth Leakage Switch not installed on mains supply or portable generator.</li> <li>• Working on or moving mobile scaffold too close to live power lines.</li> <li>• Scaffold components or material handled are greater than 4 metres in length.</li> <li>• Scaffold component or material contacts power lines.</li> <li>• Tiger Tails (insulation) not in place on power lines or wet conditions make them ineffective.</li> <li>• Strong wind causes power lines to swing closer to work area.</li> <li>• Scaffold component being handled strikes and shatters unprotected light bulb.</li> </ul>
<b>Erection of base frames and bracing</b>	Unsupported frames being erected at ground level.	Frames fall over striking person erecting scaffold or other person close to the work area.	<ul style="list-style-type: none"> <li>• Bracing or team member not used to support first frames.</li> <li>• Foundation not level or unsuitable for mobile scaffold.</li> <li>• Castor wheels not adjusted correctly or not locked.</li> </ul>
	Incorrectly assembled first frames causing unstable scaffold base.	Fall from completed scaffold or fall from scaffold during erection.	<ul style="list-style-type: none"> <li>• Insufficient skills (competency) to complete the required task.</li> <li>• Instructions are not provided or are not clear – print is too small and/or photocopy cannot be read.</li> <li>• Scaffold poorly maintained – colour coding referred to in instructions is not visible on components.</li> <li>• Base frame assembled upside down – castor wheels will not fit correctly.</li> </ul>
<b>Erection of 2<sup>nd</sup> level frames and bracing</b>	Climbing lightweight scaffold base frames during erection.	Scaffold tips over causing fall.	<ul style="list-style-type: none"> <li>• Climbing up the outside of the frame causes scaffold to tip sideways.</li> <li>• 2 persons not used to assist in frame erection.</li> <li>• Foundation not level or unsuitable for mobile scaffold.</li> </ul>

Job Activity (Tasks)	What Can Harm You (Hazards)	What Can Happen (Risks)	Causes Which Need to be Managed (Controlled)
	Base frames not adequately braced or supported.	Instability/ collapse of base frames causing fall.	<ul style="list-style-type: none"> <li>• Scaffold distorts out of square due to plan bracing being left out.</li> <li>• Insufficient diagonal bracing or bracing fixed incorrectly.</li> <li>• Castor wheels not locked to prevent movement or lock/s broken.</li> <li>• Foundation not level or unsuitable for mobile scaffold.</li> <li>• Castor wheels not adjusted correctly when leveling the base frames.</li> </ul>
	Electrical supply too close to work area.	Electric shock or electrocution.	<ul style="list-style-type: none"> <li>• Earth Leakage Switch not installed on mains supply or portable generator.</li> <li>• Working too close to live power lines.</li> <li>• Scaffold components or materials handled are greater than 4 metres in length.</li> <li>• Tiger Tails (insulation) not in place on power lines or wet conditions make them ineffective.</li> <li>• High wind causes power lines to swing closer to work area.</li> <li>• Scaffold component strikes and shatters unprotected light bulb.</li> </ul>
	Scaffold exceeds height to base dimensions ratio.	Scaffold topples over causing a fall from height.	<ul style="list-style-type: none"> <li>• General height of the light duty prefabricated aluminium mobile scaffold exceeds 3 times the minimum base dimension (ref AS4576). <ul style="list-style-type: none"> <li>• e.g. a scaffold with base dimensions of 2.4m x 1.8m the height to the working platform should be no more than 5.4m.</li> </ul> </li> <li>• For a scaffold with a narrow base width of less than 1.2m the height of the light duty prefabricated aluminium mobile scaffold exceeds twice the base width (ref AS4576), <ul style="list-style-type: none"> <li>• e.g. a scaffold with a base of 2.4m x 1.2m the height to the working platform should be no more than</li> </ul> </li> </ul>

Job Activity (Tasks)	What Can Harm You (Hazards)	What Can Happen (Risks)	Causes Which Need to be Managed (Controlled)
			2.4m.
Erection of working platform	Manual Handling.	Strains and sprains; injuries such as back damage.	<ul style="list-style-type: none"> <li>2 persons not used to lift platforms onto 2<sup>nd</sup> level frames.</li> </ul>
	Split (uneven) decks installed onto 2 <sup>nd</sup> frames.	Step backward off higher deck causing fall from height.	<ul style="list-style-type: none"> <li>Working platform installed with split decks, i.e. both deck platforms are not set at the same height.</li> </ul>
Erection of edge protection, ladder and toeboards	Climbing on lightweight scaffold base frames.	Scaffold moves unexpectedly or tips over causing fall.	<ul style="list-style-type: none"> <li>2 persons not used to assist in frame erection.</li> <li>Foundation uneven or soft.</li> <li>Planks and ply or steel plates not used where soft ground is a problem.</li> </ul>
	Movement of scaffold tower.	Fall from unprotected working platform.	<ul style="list-style-type: none"> <li>Castor wheels not locked to prevent movement whilst edge protection is erected.</li> </ul>
	Edge protection incomplete.	Fall from the edge of the working platform.	<ul style="list-style-type: none"> <li>Handrail not positioned 900 – 1100mm above the working platform on all sides.</li> <li>No midrail installed to all sides.</li> </ul>
	Ladder access hatch (trap door) in working deck.	Fall through ladder access hatch.	<ul style="list-style-type: none"> <li>Hatch not closed or trapdoor missing.</li> </ul>
	Inappropriate access to working deck.	Fall whilst gaining access to working platform.	<ul style="list-style-type: none"> <li>Climbing up or down the outside of the scaffold – no ladder access.</li> <li>Ladder not positioned internally and at the appropriate angle 1:4 i.e. for every 4 metres in height 1 metre out from the base.</li> <li>Ladder not secured at the top and the bottom.</li> <li>Ladder does not project at least 1 metre above the working platform.</li> <li>Ladder does not access the working platform through a trapdoor.</li> <li>Ladder hung vertically off the handrail or ledger on the external or internal face of the scaffold.</li> </ul>

<b>Job Activity (Tasks)</b>	<b>What Can Harm You (Hazards)</b>	<b>What Can Happen (Risks)</b>	<b>Causes Which Need to be Managed (Controlled)</b>
	Unsecured tools and/or equipment lying on working platform.	Struck by falling object.	<ul style="list-style-type: none"> <li>No toeboards fitted to the working platform.</li> <li>No exclusion zone around scaffold positioned in a public or work area.</li> <li>Area around base of scaffold not bunted off.</li> </ul>
<b>Use of scaffold</b>	Vehicle or mobile plant strikes scaffold.	Injury due to scaffold collapse.	<ul style="list-style-type: none"> <li>Scaffold positioned too close to plant operating area.</li> <li>Plant not operated in a defined exclusion zone.</li> <li>Base of scaffold not adequately protected from impact e.g. concrete Jersey kerbs.</li> <li>“Spotter” not used to supervise plant.</li> </ul>
	Carrying out “hot work” in scaffold.	Burns.	<ul style="list-style-type: none"> <li>Fire extinguisher not full or adjacent to work area on scaffold working platform.</li> <li>Worker/s not trained in the use of fire equipment.</li> <li>Incorrect type of fire extinguisher provided for the required task, e.g. water or powder based.</li> <li>No PPE or incorrect PPE for the required task.</li> </ul>
	Incomplete scaffold.	Fall from scaffold frames or working platform.	<ul style="list-style-type: none"> <li>Un-authorized removal of or interference with scaffold components.</li> <li>Scaffold not inspected by competent person prior to use.</li> <li>Isolation system for incomplete scaffolds, e.g. tag and/or bunting, not in place.</li> <li>Incomplete edge protection to working platform – no handrail or midrail or both.</li> </ul>
	Split (uneven) decks installed onto 2 <sup>nd</sup> frames.	Step backward off higher deck causing fall from height.	<ul style="list-style-type: none"> <li>Working platform installed with split decks, i.e. both deck platforms are not set at the same height.</li> </ul>
	Scaffold left unattended and unsecured.	Scaffold accessed by inexperienced person or scaffold falls onto person	<ul style="list-style-type: none"> <li>Scaffold not barricaded to prevent un-authorized use.</li> <li>Scaffold not secured to prevent movement e.g. during windy weather.</li> </ul>

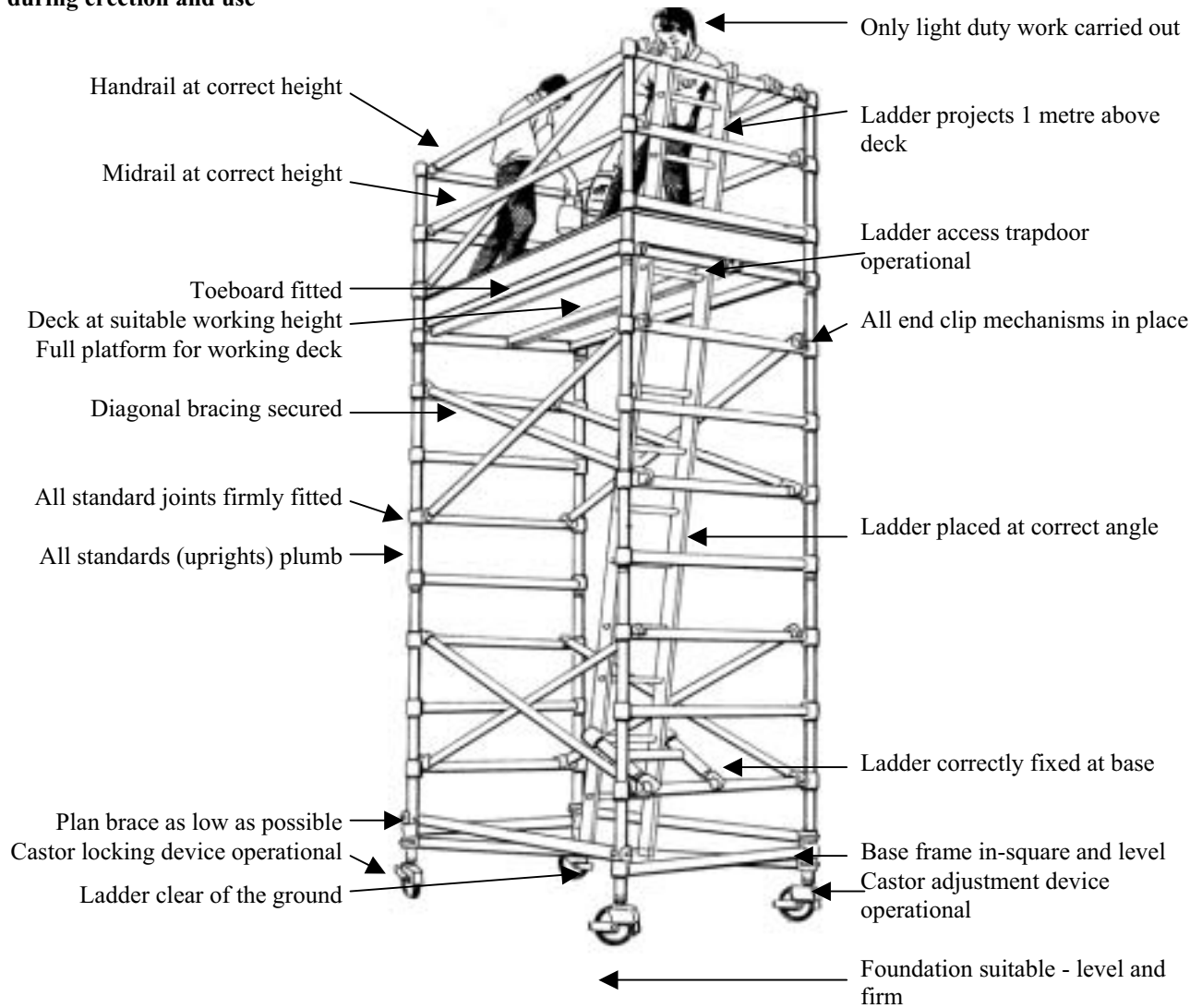
Job Activity (Tasks)	What Can Harm You (Hazards)	What Can Happen (Risks)	Causes Which Need to be Managed (Controlled)
<b>Moving scaffold to new location</b>	Moving scaffold to a new location.	Scaffold topples over resulting in a fall. or object.	<ul style="list-style-type: none"> <li>• Castor wheels not locked.</li> <li>• Failure to descend from scaffold and re-position from the base of scaffold.</li> <li>• Moving scaffold whilst a person is still positioned aloft on the working platform, e.g. grasping overhead roof trusses to pull scaffold along.</li> <li>• Scaffold moved onto bitumen or other soft surface causing castor wheels to subside.</li> <li>• Planks and ply or steel plates not used where soft ground is a problem.</li> <li>• Scaffold too close to an exposed edge, i.e. within 1 metre.</li> </ul>
	Electrical supply too close to work area.	Electric shock or electrocution.	<ul style="list-style-type: none"> <li>• Earth Leakage Switch not installed on mains supply or portable generator.</li> <li>• New work area not inspected for electrical hazards.</li> <li>• Working too close to live power lines – within 4 metres.</li> <li>• Scaffold components are greater than 4 metres in length.</li> <li>• Tiger Tails not in place over power lines.</li> <li>• Strong wind causes power lines to swing closer to the work area.</li> <li>• Scaffold component strikes and shatters unprotected light bulb.</li> </ul>
<b>Dismantling and/or alteration</b>	Scaffold incomplete or partly dismantled.	Fall from scaffold.	<ul style="list-style-type: none"> <li>• Un-authorized removal of or interference with scaffold components.</li> <li>• Scaffold not inspected by competent person prior to use.</li> <li>• Isolation system for incomplete scaffold, e.g. tag and/or bunting, not in place.</li> </ul>



Job Activity (Tasks)	What Can Harm You (Hazards)	What Can Happen (Risks)	Causes Which Need to be Managed (Controlled)
	Unstable or incorrect dismantling of scaffold.	Injury due to scaffold collapse.	<ul style="list-style-type: none"> <li>• Insufficient skills (competency) to complete the required task.</li> <li>• Instructions are not provided or are not clear – print is too small and/or photocopy cannot be accurately followed.</li> <li>• Scaffold poorly maintained by supplier – colour coding referred to in instructions is not visible on components.</li> </ul>
	Inappropriate alterations to scaffold.	Scaffold collapse or fall from scaffold.	<ul style="list-style-type: none"> <li>• Competent person not used for scaffold alteration.</li> <li>• Qualified (ticketed) scaffolder not used for complex alteration, e.g. cantilever or outrigger.</li> <li>• Scaffold not inspected by competent person prior to use.</li> <li>• Isolation system for incomplete scaffold, e.g. tag and/or bunting, not in place.</li> </ul>

# Check-list for Lightweight Aluminium Mobile Scaffolds

Clear of electrical hazards during erection and use



Source: Adapted from diagram by Instant Access

*At all times refer to manufacturers recommendations*

## WorkCover Offices

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### HEAD OFFICE

Office Hours 8:30am–5:00pm  
Monday to Friday  
400 Kent Street  
SYDNEY NSW 2000  
Phone: (02) 9370 5000  
Fax: (02) 9370 5999  
Postal Address  
WorkCover NSW  
GPO Box 5364  
SYDNEY NSW 2001

### Client Contact Centre

Office Hours 8:30am–4:30pm  
Monday to Friday  
Ground Floor, 400 Kent Street  
SYDNEY NSW 2000  
Phone: 13 10 50  
Fax: 9370 6150

### REGIONAL and LOCAL OFFICES

Office Hours: 8:30am-4:30pm  
Monday to Friday

### REGIONAL OFFICES

#### Newcastle

956 Hunter Street  
NEWCASTLE WEST 2302  
Phone: (02) 4921 2900  
Fax: (02) 4921 2929

#### Parramatta

Level 8, 128 Marsden Street  
PARRAMATTA 2150  
Phone: (02) 9841 8550  
Fax: (02) 9841 8490

#### Wollongong

106 Market Street  
WOLLONGONG 2500  
Phone: (02) 4222 7333  
Fax: (02) 4226 9087

### LOCAL OFFICES

#### Albury

463 Kiewa Street  
ALBURY 2640  
Phone: (02) 6021 5911  
Fax: (02) 6041 2580

#### Batemans Bay

Shop 6, Fenning Place  
12 Orient Street  
BATEMANS BAY 2536  
Phone: (02) 4472 5544  
Fax: (02) 4472 5060

#### Blacktown

125 Main Street  
BLACKTOWN 2148  
Phone: (02) 9671 8701  
Fax: (02) 9831 8246

#### Dubbo

Suite 3, 157 Brisbane St  
DUBBO 2830  
Phone: (02) 6884 2799  
Fax: (02) 6884 2808

#### Central Coast

3/13 Anzac Road  
TUGGERAH 2259  
Phone: (02) 4350 6370  
Fax: (02) 4353 2373

#### Goulburn

21-23 Clifford Street  
GOULBURN 2580  
Phone: (02) 4822 1243  
Fax: (02) 4822 1242

#### Grafton

NSW Government Offices  
49 – 51 Victoria Street  
GRAFTON 2460  
Phone: (02) 6641 5111  
Fax: (02) 6641 5100

#### Griffith

NSW Government Offices  
104 – 110 Banna Avenue  
GRIFFITH 2680  
Phone: (02) 6964 2027  
Fax: (02) 6964 1738

#### Hurstville

Level 4, 4-8 Woodville Street  
HURSTVILLE 2220  
Phone: (02) 9598 3366  
Fax: (02) 9585 0261

#### Lindfield

345 Pacific Hwy  
LINDFIELD 2070  
Phone: (02) 9936 3000  
Fax: (02) 9936 3030

#### Lismore

Suite 4, Level 4  
Manchester Unity Building  
29 Molesworth Street  
LISMORE 2480  
Phone: (02) 6622 0088  
Fax: (02) 6622 0090

#### Liverpool

Suite 4, Ground Floor  
157 – 161 George Street  
LIVERPOOL 2170  
Phone: (02) 9827 8600  
Fax: (02) 9827 8690

#### Narrabri

Level 1, 55 Maitland Street  
NARRABRI 2390  
Phone: (02) 6792 4643  
Fax: (02) 6792 3532

#### Newcastle

956 Hunter Street  
NEWCASTLE WEST 2302  
Phone: (02) 4921 2900  
Fax: (02) 4921 2929

#### Orange

74 McNamara Street  
ORANGE 2800  
Phone: (02) 6361 7070  
Fax: (02) 6362 8820

#### Parramatta

Level 8, 128 Marsden Street  
PARRAMATTA 2150  
Phone: (02) 9841 8550  
Fax: (02) 9841 8490

#### Port Macquarie

Shops 1 & 2,  
Raine & Horne House  
145 Horton Street  
PORT MACQUARIE 2444  
Phone: (02) 6584 1188  
Fax: (02) 6584 1788

#### Shellharbour

134 – 134A Lamerton House  
Shellharbour Square  
BLACKBUTT 2529  
Phone: (02) 4297 3796  
Fax: (02) 4296 8914

#### Tamworth

Shop 20, 341 Peel Street  
TAMWORTH 2340  
Phone: (02) 6766 2490  
Fax: (02) 6766 4972

#### Lake Macquarie

Shop 2, 33 The Boulevard  
TORONTO 2283  
Phone: (02) 4959 6366  
Fax: (02) 4950 5587

#### Tweed Heads

Suite 5, 1 Sands Street  
TWEED HEADS 2485  
Phone: (07) 5536 3262  
Fax: (07) 5536 4389

#### Wagga Wagga

Level 2, 76 Morgan Street  
WAGGA WAGGA 2650  
Phone: (02) 6937 3600  
Fax: (02) 6937 3616

#### Wollongong

106 Market Street  
WOLLONGONG 2500  
Phone: (02) 4222 7333  
Fax: (02) 4226 9087