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Information obtained from and about Buranda Village Shopping Centre, QLD in the course of the roof safety systems consulting services will be treated as strictly confidential. This information will only be used in the compilation and presentation of this report to Buranda Village Shopping Centre, QLD and not to any other source.

#### **DISCLAIMER**

Judgements as to the suitability of information herein for the client's purposes are necessarily the client's responsibility. This report does not constitute legal advice. Therefore, although reasonable care has been taken in the preparation of such information, Safemaster Safety Products extends no warranties, makes no representation and assumes no responsibility as to the accuracy or suitability of such information for application to the client's intended purposes or for consequences of its use.

#### **CONTACT THE INSPECTOR**

Should you have any difficulty in understanding anything outlined within this report then you should immediately contact the inspector and have the matter explained to you. If you have any questions at all or require any clarification then contact the inspector prior to acting on this report.

The audit report was carried out by:

James Townsend (Safemaster Safety Products) 31-33 Catalano Road, Canning Vale 6155 PH: (08) 6243 3111 EMAIL: inspections@safemaster.net.au

Signed for and on behalf of Safemaster Safety Products:

) ,

James Townsend (Recertifications Technician)

#### **DOCUMENT STATUS & DISTRIBUTION RECORD**

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VERSION	AUTHOR	DATE	DESCRIPTION	RECIPIENT
1.0	SAFEMASTER	11/05/2018	Electronic draft copy issued	Terry Vanes

CLIENT	BUILDINGS INSPECTED	SYSTEMS INSPECTED
Buranda Village	Corner Ipswich Road and Cornwall Street, Buranda QLD 4102	Anchor Points Signage Handrail Ladder Stair Static Line Mechanical Platform Roof Walkway

#### **DATE OF INSPECTION**

19/10/2017

#### **INSPECTORS**

James Townsend

#### REPORT REVIEWED BY

Richard Wilkinson (Service Manager) Titus Sivewright (Sales Representative)

#### **DESCRIPTION**

Safemaster Safety Products, a height safety and compliance consultancy, and system design/manufacture/install/certification provider has been commissioned by Buranda Village to carry out an audit, inspection and recommendations, followed by re-certification of the roof safety systems installed on Buranda Village Shopping Centre, QLD 4102.

This report is presented in relation to a comprehensive roof safety system audit, inspection and re-certification carried out by Safemaster's team of competent inspectors on 19<sup>th</sup> October 2017, which includes obtaining documentation ahead of the inspection, inspecting all existing roof safety equipment, checking policies and procedures at site level, and interviewing Buranda Village Shopping Centre's health and safety representatives on site.

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#### **EXECUTIVE SUMMARY**

Safemaster Safety Products were engaged by Buranda Village to conduct an audit and recertify the working at heights safety systems and equipment at the Buranda Village Shopping Centre in Buranda, Queensland.

The purpose of the audit was to identify and communicate any risks and non-compliance issues at the centre that don't comply with the Australian Standards, Codes of Practice, Acts and Regulations and to form a basis for defining a safe system of work for staff and contractors as required under the current legislation.

Buranda Village Shopping Centre is a sub-regional shopping centre approximately 11,561m<sup>2</sup> consisting of 1 main building and various out-buildings. Included in this report is the main shopping mall structure.

Safemaster conducted the audit on the 19/10/2017. The layout plans for the height safety system were not available Safemaster has established its own layout plan form the audit. The audit was conducted by Mr James Townsend. The review of the audit was completed by Mr Richard Wilkinson and Titus Sivewright.

Safemaster gained access to the main roof area via the internal main access steps in a store room near the centre management office that leads to the roof. The height safety system at the Buranda Village Shopping Centre mainly consists of anchor points, walkway systems, handrails and ladders. There are many major main plant decks that hold the serviceable items, and some of the HVAC and mechanical equipment are spread over the roof. In the main, the access and egress ways to the serviceable items are installed and are in good order and condition. The layout and serviceability of the anchor points was found to be in compliance with the current standards.

Included in this report is a list of non-compliant issues that are identified in our findings and recommendations. Safemaster recommends that all items are addressed stating from the most severe as soon as possible. In addressing the items of non-compliance Buranda Village will be addressing the key performance requirements for providing a suitable access and egress safety system on the Buranda Village Shopping Centre.

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### 1.1 INSPECTION METHODOLOGY

The audit has been carried out by Safemaster's team of competent inspectors to evaluate the roof safety system on Buranda Village Shopping Centre, QLD 4102.

The audit and inspection is based on:

- Risk Assessment-Hierarchy of Control
- Safemaster Blueprints
- Vicinity Centre Risk Matrix
- Managing the Risk of Falls at the Workplace
- AS/NZS 1891 (Series)- Industrial Fall Arrest Systems and Devices
- AS/NZS 5532-2013 'Anchor Points' AS/NZS 1319-1994 'Safety Signs for the Occupational Environment'
- AS/NZS 1657-2013 'Fixed Platforms, Walkways, Stairways and Ladders- Design, Construction and Installation'

The inspection was conducted on all roof levels, with careful visual examination of all existing roof safe equipment, including photographical documentations of various potential hazards (refer to section 2.1 Finding & Recommendations).

#### **TESTING INSTRUMENT**

Product: HILTI Tester

### 1.2 RISK ASSESSMENT

#### **HAZARD IDENTIFICATION**

In performing the hazard identification in association with roof works at Buranda Village Shopping Centre, QLD 4102, the following activities have been identified as possibly exposing workers to falls:

- General maintenance of the structural and external elements of the building such as window/gutters/downpipes cleaning and general roof and facade repairs and maintenance
- Periodic maintenance and repair of roof mounted mechanical systems on a fragile roof surface and near an unprotected open edge
- Work on sloping or slippery surface where it is difficult to maintain balance
- Other tasks requiring workers to access the roof or work at height

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#### **RISK ASSESSMENT & CONTROL**

In performing the risk assessment and risk control, it is clear that the elimination risk control strategy is not practical as the needs for maintenance or repairing the building are unavoidable. The risk for workers exposed to significant fall hazards has been assessed as **high**.

As control measures, Buranda Village Shopping Centre has made effort to implement a permanent roof safety system to manage the risks of workers falling from height to as low as is reasonably practicable.

The existing permanent equipment to provide and maintain a safe system of work, includes:

- Fall prevention system (Handrail system) to prevent a person falling any distance, or where this is not practicable,
- An Access system (Permanent ladders and Stairs, Walkway, Signage) to allow a person to gain access to a work area safely and,
- A Fall arrest system (Anchorages and Staticline) to stop a falling person under safe conditions by limiting the distance and/or force of the fall, as it is not reasonably practicable to provide a fall prevention/work positioning system.

#### HIERARCHY OF CONTROL

#### **HAZARD IDENTIFICATION & RISK ASSESSMENT**

Identify the hazards (eg a fall) and assess the likehood and consequence of each



#### **ELIMINATION**

Eliminate the need to access the fall-risk area, e.g, by relocating plant or items requiring inspection or maintenance



#### **SUBSTITUTION**

Provide alternative means of access to the point or item which avoids the risk of fall



#### **ISOLATION**

Barricade or enclose the fall risks so that it cannot be reached



#### **FALL PROTECTION**

Provide personal protective equipment which either prevents a fall or reduces the risk or severity of a fall or, in the event of a fall, minimizes the risk of injury



No	Photo of Hazard	Details of Hazard	Details of Risk	Existing/ Immediate Control Measure	Curre nt Risk Level	Proposed Permanent Solution	Resid ual Risk Asse ssme nt	Details of Action Taken	Status	Reference
01	Building: General Stores Location Reference: LOI Task: Restrict access to the roof									
		No height safety system installed	Trips, Slips and Falls	Restrict Access	High	"EWP Access Only" sign to be installed	Low	Client advised	Outsta nding	OH&S REGULATIONS 3.55 & 3.11
02	Building: General Stores Location Reference: LO2 Task: Access to the A/c units									
		No safe access to the A/c units	Trips, Slips and Falls	N/A	Low	Supply walkway to the A/c units	Low	Client advised	Outsta nding	-

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No	Photo of Hazard	Details of Hazard	Details of Risk	Existing/ Immediate Control Measure	Curre nt Risk Level	Proposed Permanent Solution	Resid ual Risk Asse ssme nt	Details of Action Taken	Status	Reference
03	Building: General Stores Location Reference: LO3 Task: Restrict access to the roof									
		No height safety system installed	Trips, Slips and Falls	Restrict Access	High	"EWP Access Only" sign to be installed	Low	Client advised	Outsta nding	OH&S REGULATIONS 3.55 & 3.11
04	Building: General Stores Location Reference: LO4 Task: Access to the roof									
		Bottom rung height is less than required minimum	Trips, Slips and Falls	Awareness induction	Med	Landing platform to be installed	Low	Client advised	Outsta nding	OH&S REGULATIONS 3.7 AS/NZS 1657- 2013 7.4.3.4

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No	Photo of Hazard	Details of Hazard	Details of Risk	Existing/ Immediate Control Measure	Curre nt Risk Level	Proposed Permanent Solution	Resid ual Risk Asse ssme nt	Details of Action Taken	Status	Reference
05	Building: General Stores Location Reference: LO4 Task: Access to the roof									
		Sharp edges on handrails	Trips, Slips and Falls	Awareness induction	Med	Tek screws to be replaced with rivets	Low	Client advised	Outsta nding	OH&S REGULATIONS 3.7 AS/NZS 1657- 2013 5.6
06	Building: General Stores Location Reference: LOS Task: Access to the roof									
		No height safety system installed	Trips, Slips and Falls	Awareness induction	High	Fall arrest anchors to be installed	Low	Client advised	Outsta nding	OH&S REGULATIONS 3.55

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No	Photo of Hazard	Details of Hazard	Details of Risk	Existing/ Immediate Control Measure	Curre nt Risk Level	Proposed Permanent Solution	Resid ual Risk Asse ssme nt	Details of Action Taken	Status	Reference
07	Building: General Stores Location Reference: LO6 Task: Restrict access to the roof									
		Brittle roof (Non-trafficable roof)	Trips, Slips and Falls	Restrict Access	High	"Warning-Keep Off- Brittle and Fragile Roof" signs to be installed	Low	Client advised	Outsta nding	OH&S REGULATIONS 3.57
08	Building: General Stores Location Reference: LOT Task: Access to the A/c units									
		No safe access to the A/c units	Trips, Slips and Falls	Awareness induction	Med	Additional handrail and ladder to be installed	Low	Client advised	Outsta nding	OH&S REGULATIONS 3.7 & 3.55 AS/NZS 1657- 2013 3.1.4

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No	Photo of Hazard	Details of Hazard	Details of Risk	Existing/ Immediate Control Measure	Curre nt Risk Level	Proposed Permanent Solution	Resid ual Risk Asse ssme nt	Details of Action Taken	Status	Reference
09	Building: General Stores Location Reference: LOS Task: Access to the A/c unit									
		No safe access to the A/c units	Trips, Slips and Falls	Awareness induction	Med	Cleats on roof to be installed	Low	Client advised	Outsta nding	OH&S REGULATIONS 3.7 AS/NZS 1657- 2013 5.3.2
10	Building: General Stores Location Reference: LO9 Task: Access to the roof									
		Non-complaint landing is present	Trips, Slips and Falls	Awareness induction	Med	Existing ladder to be re-installed with landing platforms and brackets	Low	Client advised	Outsta nding	OH&S REGULATIONS 3.7 AS/NZS 1657- 2013 7.4.3.5

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No	Photo of Hazard	Details of Hazard	Details of Risk	Existing/ Immediate Control Measure	Curre nt Risk Level	Proposed Permanent Solution	Resid ual Risk Asse ssme nt	Details of Action Taken	Status	Reference
11	Building: General Stores Location Reference: L10 Task: Access to the roof									
		No safe access to the A/c units	Trips, Slips and Falls	Awareness induction	Med	Cleats on roof to be installed	Low	Client advised	Outsta nding	OH&S REGULATIONS 3.7 AS/NZS 1657- 2013 5.3.2
12	Building: General Stores Location Reference: L10 Task: Access to the roof									
		Non-complaint step is present	Trips, Slips and Falls	Awareness induction	Med	Additional steps to be installed	Low	Client advised	Outsta nding	OH&S REGULATIONS 3.7 AS/NZS 1657- 2013 3.1.4

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No	Photo of Hazard	Details of Hazard	Details of Risk	Existing/ Immediate Control Measure	Curre nt Risk Level	Proposed Permanent Solution	Resid ual Risk Asse ssme nt	Details of Action Taken	Status	Reference
13	Building: General Stores Location Reference: 11 Task: Restrict access to the roof									
		No height safety system installed	Trips, Slips and Falls	Restrict Access	High	"EWP Access Only" sign to be installed	Low	Client advised	Outsta nding	OH&S REGULATIONS 3.55 & 3.11
14	Building: General Stores Location Reference: L11 Task: Access to the roof									
		No height safety system installed	Trips, Slips and Falls	Awareness induction	High	Fall arrest anchors to be installed	Low	Client advised	Outsta nding	OH&S REGULATIONS 3.55

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No	Photo of Hazard	Details of Hazard	Details of Risk	Existing/ Immediate Control Measure	Curre nt Risk Level	Proposed Permanent Solution	Resid ual Risk Asse ssme nt	Details of Action Taken	Status	Reference
15	Building: General Stores Location Reference: L11 Task: Access to the roof									
		No height safety system installed	Trips, Slips and Falls	Awareness induction	High	Fall arrest anchors to be installed	Low	Client advised	Outsta nding	OH&S REGULATIONS 3.55
16	Building: General Stores Location Reference: L12 Task: Access to the roof									
		No height safety system installed	Trips, Slips and Falls	Awareness induction	High	Fall arrest anchors to be installed	Low	Client advised	Outsta nding	OH&S REGULATIONS 3.55

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No	Photo of Hazard	Details of Hazard	Details of Risk	Existing/ Immediate Control Measure	Curre nt Risk Level	Proposed Permanent Solution	Resid ual Risk Asse ssme nt	Details of Action Taken	Status	Reference
17	Building: General Stores Location Reference: 12 Task: Access to the roof									
		No height safety system installed	Trips, Slips and Falls	Awareness induction	High	Fall arrest anchors to be installed	Low	Client advised	Outsta nding	OH&S REGULATIONS 3.55
18	Building: General Stores Location Reference: L13 Task: Access to the roof									
		Bottom rung height is less than required minimum and ladder not lined up with fold down ladder	Trips, Slips and Falls	Awareness induction	Med	Existing ladder to be removed and new ladder to be installed	Low	Client advised	Outsta nding	OH&S REGULATIONS 3.7 AS/NZS 1657- 2013 7.4.3.4

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No	Photo of Hazard	Details of Hazard	Details of Risk	Existing/ Immediate Control Measure	Curre nt Risk Level	Proposed Permanent Solution	Resid ual Risk Asse ssme nt	Details of Action Taken	Status	Reference
19	Building: General Stores Location Reference: 114 Task: Restrict access to the roof									
		No height safety system installed	Trips, Slips and Falls	Restrict Access	High	"EWP Access Only" sign to be installed	Low	Client	Outsta nding	OH&S REGULATIONS 3.55 & 3.11

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# CERTIFICATE OF COMPLIANCE INSPECTION LOG RECORD - INSTALLED SYSTEMS

**Client:** Vicinity Centres

Job Ref: SM12182 Site: Buranda Village

Item No	Equipment Type& Description	Manufacturer/ Installer	Location	Commission Date	Insp Date	Next Insp Date	Complying Standards	Status	Comments
1	Surfacemount Anchor Point 15 Kn	SafetyLyne	Car Park Awning	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
2	Surfacemount Anchor Point 15 Kn	SafetyLyne	Car Park Awning	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
3	Surfacemount Anchor Point 15 Kn	SafetyLyne	Car Park Awning	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
4	Surfacemount Anchor Point 15 Kn	SafetyLyne	Car Park Awning	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
5	Surfacemount Anchor Point 15 Kn	SafetyLyne	Car Park Awning	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
6	Horizontal Static Line 15 Kn	SafetyLyne	Car Park Awning	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
7	Horizontal Static Line 15 Kn	SafetyLyne	Car Park Awning	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
8	Surfacemount Anchor Point 15 Kn	SafetyLyne	Level 4 Roof	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
9	Surfacemount Anchor Point 15 Kn	SafetyLyne	Level 4 Roof	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
10	Surfacemount Anchor Point 15 Kn	SafetyLyne	Level 4 Roof	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
11	Surfacemount Anchor Point 15 Kn	SafetyLyne	Level 4 Roof	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
12	Surfacemount Anchor Point 15 Kn	SafetyLyne	Level 4 Roof	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	

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13	Surfacemount Anchor Point 15 Kn	SafetyLyne	Level 4 Roof	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
14	Surfacemount Anchor Point 15 Kn	SafetyLyne	Level 4 Roof	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
15	Surfacemount Anchor Point 15 Kn	SafetyLyne	Level 4 Roof	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
16	Surfacemount Anchor Point 15 Kn	SafetyLyne	Level 4 Roof	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
17	Surfacemount Anchor Point 15 Kn	SafetyLyne	Level 4 Roof	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
18	Surfacemount Anchor Point 15 Kn	SafetyLyne	Level 4 Roof	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
19	Surfacemount Anchor Point 15 Kn	SafetyLyne	Level 4 Roof	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
20	Surfacemount Anchor Point 15 Kn	SafetyLyne	Level 4 Roof	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
21	Surfacemount Anchor Point 15 Kn	SafetyLyne	Level 4 Roof	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
22	Surfacemount Anchor Point 15 Kn	SafetyLyne	Level 4 Roof	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
23	Surfacemount Anchor Point 15 Kn	SafetyLyne	Level 4 Roof	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
24	Surfacemount Anchor Point 15 Kn	SafetyLyne	Level 4 Roof	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	

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**Client:** Vicinity Centres

Job Ref: SM12182 Site: Buranda Village

Item No	Equipment Type& Description	Manufacturer/ Installer	Location	Commission Date	Insp Date	Next Insp Date	Complying Standards	Status	Comments
25	Surfacemount Anchor Point 15 Kn	SafetyLyne	Level 4 Roof	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
26	Surfacemount Anchor Point 15 Kn	SafetyLyne	Woolworths Roof	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
27	Surfacemount Anchor Point 15 Kn	SafetyLyne	Woolworths Roof	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
28	Surfacemount Anchor Point 15 Kn	SafetyLyne	Woolworths Roof	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
29	Surfacemount Anchor Point 15 Kn	SafetyLyne	Woolworths Roof	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
30	Surfacemount Anchor Point 15 Kn	SafetyLyne	Woolworths Roof	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
31	Surfacemount Anchor Point 15 Kn	SafetyLyne	Woolworths Roof	1/06/2015	19/10/2017	19/10/2018	AS1891.4:2009	Pass	
32	Access Ladder (AI)	Unknown	L4	1/06/2015	19/10/2017	19/10/2018	AS1657:2013	Fail	
33	Handrail (AI)	Unknown	L4	1/06/2015	19/10/2017	19/10/2018	AS1657:2013	Fail	
34	Handrail (AI)	Unknown	L7	1/06/2015	19/10/2017	19/10/2018	AS1657:2013	Fail	
35	Access Ladder (AI)	Unknown	L9	1/06/2015	19/10/2017	19/10/2018	AS1657:2013	Fail	
36	Step (AI)	Unknown	L10	1/06/2015	19/10/2017	19/10/2018	AS1657:2013	Fail	

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**Client:** Vicinity Centres

Job Ref: SM12182

Site: Buranda Village

Item No	Equipment Type& Description	Manufacturer/ Installer	Location	Commission Date	Insp Date	Next Insp Date	Complying Standards	Status	Comments
37	Access Ladder (AI)	Unknown	L13	1/06/2015	19/10/2017	19/10/2018	AS1657:2013	Fail	
38	Handrail (Al)	Unknown	L13	1/06/2015	19/10/2017	19/10/2018	AS1657:2013	Pass	

AUTHORISED BY: JAMES TOWNSEND

DATE: 25/10/2017

SIGNATURE:



## 3.1 DEFINITIONS

Anchorage	A secure point of attachment on a rigid structure for attachment of a working line, safety line, fall arrest device or other elements of a rigging system. Anchors must be capable of withstanding a load of 22kN in the direction of load without failing
Body Containment Device	A device designed to contain the body of a worker and to distribute forces resulting from an arrested fall to minimise the injury. They consist of a full body harness together with associated components such as lanyard and personal energy absorber. Alternatively, body containment devices may be used to restrain individuals from falling where use is solely restricted to fall-restraint
Competent person	A person who has, through a combination of training, education and experience, acquired knowledge and skills enabling that person to correctly perform a specified task. Ref: AS1891 Section 2.2.11
Connector	A device used to couple (connect) components of a personal fall protection system or positioning device system. The connector may be an independent component (such as a karabiner) or an integral component (such as buckle or D-ring sewn into a garment) of the system. P.P.E. Connectors must be drop forged or made of equivalent materials; they must have a corrosion-resistant finish and all surfaces and edges must be smooth to prevent damage to other parts of the system
Contractor	For the purposes of this document, a contractor includes any and all sub- contractors and employees of the main contractor and as defined in the Workplace Health & Safety Act (2011) and Regulations (2011)
Free-fall/Fall Arrest	A fall or the arrest of a fall, where the fall distance before the fall-arrest system begins to take any loading is in excess of 600mm either vertically or on a slope on which it is not possible to walk without the assistance of a handrail or handline
Limited Free- Fall/Limited Fall- Arrest	A fall or the arrest of a fall, occurring under the Free-Fall/Fall Arrest conditions previously described, except that under reasonable foreseeable conditions the fall distance shall not exceed 600mm
Restrained Fall/Restrained Fall Arrest	A fall or the arrest of a fall, where the person suffering the fall is partially restrained by a device such as a pole strap, or is sliding down a slope on which it is not possible to walk without the assistance of a handrail or handline
Roof	The exterior top surface of a building
Type 1 rope grab fall arrester	A fall arrest device which travels along an anchorage line and when loaded, locks to the line
Type 2 fall arrest device	A fall arrest device from which a spring-loaded anchorage line pays out, and which locks when loaded and releases when the load is removed
WHS	Workplace Health & Safety Act (2011) and Regulations (2011)

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### 3.2 AUSTRALIAN STANDARD REFERENCES

#### AS 1657:2013

#### 3.1.4 Change in level

Where the level of a walkway above an adjacent walkway or floor is 300 mm or less, access from one level to the other may be gained without the provision of an intermediate step.

Where the change of level is greater than 300 mm but does not exceed 450 mm, a minimum of one intermediate step shall be provided. Access between adjacent levels where the difference exceeds 450 mm shall be in accordance with the requirements of Section 7 or by means of a sloping walkway complying with Section 5.

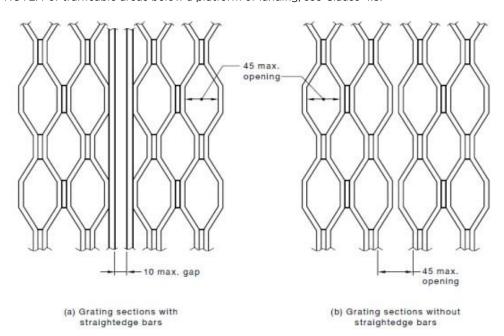
#### **3.2 MATERIALS**

#### 3.2.3.4Grating and expanded metal

For grating and expanded metal flooring, the smallest dimension of any opening shall not exceed 45 mm and the area of any opening shall not exceed 5000 mm2. Any gap between adjacent made-up sections of grated floor shall not exceed 10 mm. The gap may be of any length.

Where straightedge bars are not fitted, the size of any opening at the joint between adjacent panels shall not exceed the requirements for openings in the grating, as given in Figure 3.1.

NOTE: For trafficable areas below a platform or landing, see Clause 4.5.



DIMENSIONS IN MILLIMETRES

#### FIGURE 3.1 CLEARANCES BETWEEN ADJOINING PANELS OF GRATING

#### 3.3.4 Floors

All floors shall be evenly laid. Any variation in height between adjacent boards or plates shall not exceed 5 mm

#### **4.4 GUARDRAILING**

Guardrailing complying with Section 6 shall be installed on exposed sides of platforms and landings except for the following:

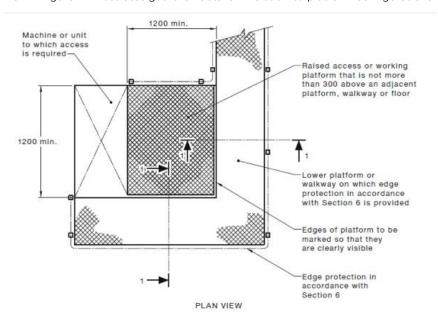
- (a) At the points of access from a stairway or ladder.
- (b) Where there is a permanent structure not more than 100 mm from the edge of the platform or landing capable of providing at least the equivalent protection to guardrailing.
- (c) On the sides and edges of a platform, the level of which is not greater than 300 mm above that of an adjacent platform or floor, provided—

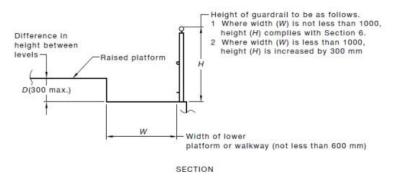
- (i) the smallest dimension of the upper platform is not less than 1200 mm; and
- (ii) the distance from any edges of the unprotected upper platform to the protection
- on the edge of the lower platform is not less than 1000 mm.

Where it is not possible to apply the requirement of Item (c)(ii) above, the minimum height of the protection at the edge of the lower platform shall be increased by 300 mm.

The unprotected edges of such platforms shall be marked so that they are clearly visible in their surroundings.

NOTE: Figure 4.1 illustrates guardrail details in relation to platform configurations





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FIGURE 4.1 GUARDRAILS ON PLATFORMS

#### 4.6 TOEBOARD

Where an object could fall from a platform or landing onto an area to which access by persons is available, a toeboard complying with Clause 6.1.2 shall be provided.

NOTE: This requirement need not apply where there is a permanent structure within 10 mm of the edge of the platform or landing.

#### 5.4.1 Provision of guardrailing

Guardrailing complying with Clause 6.2.1 shall be installed on all sides and ends of a walkway except in the following situations:

- (a) At the points of access from a stairway or ladder.
- (b) Where there is a permanent structure not more than 100 mm distant from the edge of the walkway, capable of providing protection at least equivalent to that of guardrailing.

- (c) On the sides and ends of a walking surface that is not more than 300 mm above an adjacent area upon which it is safe to step or stand without risk of falling, and—
  - (i) the slope of the walkway perpendicular to the direction of travel (cross-slope) does not exceed 3°;
  - (ii) the angle of slope of the adjacent area is less than 12°; and
  - (iii) the width of the area adjacent to the walkway is greater than 2000 mm (see Note 1).

#### NOTES:

1 The surface of the adjacent area may not be suitable for walking on regardless of the slope. Consequently, a guardrail or a handrail may still be required to prevent persons from stepping onto this area.

2 Figure 5.2 outlines the typical provisions necessary for the exemption of guardrailing to walkways. If the angle of slope of the area adjacent to the walkway is 12° or greater, guardrailing complying with Clause 6.2.1 shall be installed on the downslope side of the walkway

#### 5.6.1 General

Handrails shall be designed and constructed in accordance with the requirements of this Clause (5.6).

Handrails shall have no sharp edges or splinters (which would cause injury to users).

Handrails shall meet the imposed action requirement of Clause 6.1.1.

Handrails shall not rotate within their fittings.

#### 7.4.3.4 Variation of bottom rung/tread spacing

The distance between the bottom rung/tread and the bottom landing shall be not less than 90% and not greater than 100% of the rung/tread spacing (see Figure 7.5).

#### **NOTES**

- 1 This distance should be measured at the ladder centre-line where the landing has a cross-slope (see Figure 7.5).
- 2 Where possible, the distance between the landing and the first rung/tread should be equal to the rung/tread spacing.

C7.4.3.4The allowable variations given in this Clause and the rung/tread spacing tolerances referred to elsewhere in this Standard are not equivalent; the tolerance is a manufacturing allowance and is not intended to be cumulative. The allowable variation is a dimension that may be varied intentionally by the design.

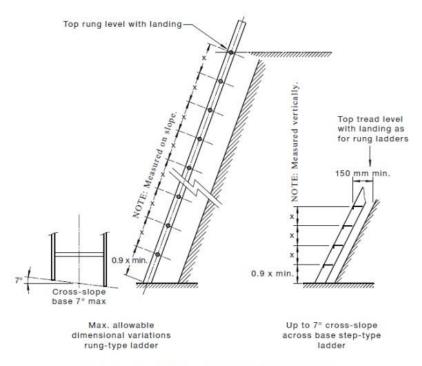


FIGURE 7.5 VARIATION OF RUNG/TREAD SPACING

#### 7.4.8.4Ladder landing

The angle of the slope of the top landing shall not exceed 3° in any direction. NOTE: For the cross-slope of bottom landings, see Clause 7.4.3.5.

The foot of the ladder shall rest on, or terminate above, the landing. NOTE: For the required dimensions of landings, see Clause 7.3.6.

Where the ladder provides access to a landing, the landing shall be level with the top rung. The landing shall extend to the top rung, or there shall be a gap of not less than 50 mm and not greater than 100 mm between the top rung and the landing. NOTE: See Figure 7.11(a).

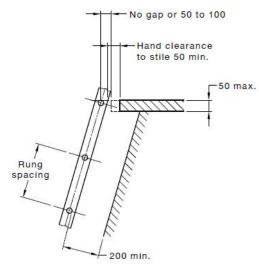
Ladder landings shall extend forward to at least the projected line of the rear of the stile. NOTE: See Figure 7.11(b).

#### 7.4.8.5 Handrails

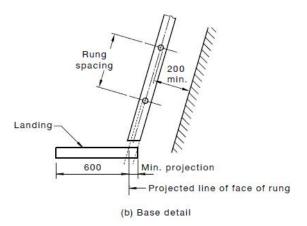
Handrails mounted on stile extensions and projecting towards the user shall not be used (see Note 1). Handrails mounted on stile extensions and projecting away from the user may be used as an aid to access.

#### NOTES:

- 1 This requirement is to discourage users from moving their centre of gravity further away from the rungs by gripping the handrails.
- 2 Guidance on handrails projecting from stile extensions is given in Appendix I.



(a) Top rung level with landing



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FIGURE 7.11 TYPICAL GAP BETWEEN LANDING AND LADDER

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#### 3.7. Access to and egress from workplace, duties of employer etc. as to

A person who, at a workplace, is an employer, the main contractor, a self-employed person or a person having control of access to the workplace must, where practicable, ensure that the means of access to and egress from the workplace-

- a. enable persons to move safely to and from the workplace; and
- b. are at all times kept free of obstructions.

Penalty: the regulation 1.16 penalty.

#### 3.11. Warning signs

Without limiting any other requirement of these regulations for the display of signs, if, in an area of a workplace there is a hazard which may not be readily apparent to a person working in or entering the area then a person who, at the workplace, is an employer, the main contractor, a person having control of the workplace or a person having control of access to the workplace must ensure that-

- a. a sign relevant to each hazard is displayed to persons in or entering the area; and
- b. the sign complies, and is used in accordance, with AS 1319.

Penalty: the regulation 1.16 penalty.

#### 3.55. Edge protection

1. A person who at a workplace, is an employer, the main contractor, a self-employed person or a person having control of the workplace must ensure that edge protection that complies with sub-regulation (5) is provided and kept in place whenever there is a risk that a person could fall 2 or more metres from the edge of-

- a. a scaffold, fixed stair, landing or suspended slab at the workplace; or
- b. formwork or falsework at the workplace.

Penalty: the regulation 1.16 penalty.

- 2. A person who, at a workplace, is an employer, the main contractor, a self-employed person or a person having control of the workplace must ensure that either
  - a. edge protection that complies with sub-regulation (5) is provided and kept in place whenever there is a risk that a person could fall 3 or more metres from an edge at the workplace other than an edge referred to in sub-regulation (1); or
  - b. a fall injury prevention system is provided and in operation whenever there is a risk that a person could fall 3 or more metres from an edge at the workplace other than an edge referred to in sub-regulation (1). Penalty: the regulation 1.16 penalty.
- 3. When a fall injury prevention system that is designed to be attached to a person is provided in accordance with sub-regulation (2)(b), a person who is at risk of falling from the structure must use the system.

  Penalty: the regulation 1.15 penalty.
- 4. When a fall injury prevention system that is not designed to be attached to a person is provided in accordance with subregulation (2)(b), a person who is at risk of falling from the structure must ensure, before the person ascends the structure, that the system is in operation.

  Penalty: the regulation 1.15 penalty.
- 5. Edge protection must have
  - a. a top rail
    - i. positioned not less than 900 mm and not more than 1 100 mm above the working surface; and
    - ii. that is capable of withstanding a force of 0.55 kN applied to any point of the guard rail system; and
  - b. either
    - i. a mid rail and a toe board; or
    - ii. a toe board and a mesh panel that comprises wire that is not less than 3 mm in diameter and apertures not greater than 75 mm x 50 mm and that fills the space between the top rail and the toe board.

#### 3.57. Brittle or fragile roofing, duties of employer etc. as to work on

- 1. A person who, at a workplace, is an employer, the main contractor, a self-employed person or a person having control of the workplace must ensure that if a person is required to work on or from a roof at the workplace where brittle or fragile material forms the whole or any part of the roof then
  - a. the person to work on or from the roof is informed that the roof is wholly or in part brittle or fragile, as is relevant to the case; and
  - b. the person to work on or from the roof is provided with a safe working platform and safe access way; and
  - c. the person to work on or from the roof is trained and instructed on
    - i. the precautions to be taken; and
    - ii. how and where to access the roof; and
    - iii. how and where to gain access to the working platform or access way referred to in paragraph(b); and

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d. to the extent practicable, a warning notice bearing the words "DANGER — FRAGILE ROOFING — USE WORKING PLATFORM" is placed at each place where a person who is to work on or from the roof is to access the roof. Penalty: the regulation 1.16 penalty.

- 2. Without limiting regulation 3.1, if at a workplace brittle or fragile material forms the whole or part of a roof that is to be removed, a person who, at the workplace, is an employer, the main contractor, a self-employed person or a person having control of the workplace must before the roof is removed
  - a. identify which areas of the roof are made of a brittle or fragile material; and
- b. assess the stability of the structure that supports the roof and the soundness of the roof. Penalty: the regulation 1.16 penalty.
- 3. A person who, at a workplace, is an employer, the main contractor, a self-employed person or a person having control of the workplace must ensure, if a person is required to work on or from a roof at the workplace where brittle or fragile material forms the whole or any part of the roof and there is a risk that that person might fall through the roof, and if there is no other practicable means of preventing the person falling through the roof, that
  - a. non-corrosive safety mesh that is capable of preventing a person falling through the roof is securely fixed directly over the top of, or directly underneath, the brittle or fragile areas; or
  - b. barriers are securely fixed and adequately maintained around the brittle or fragile areas.
  - Penalty: the regulation 1.16 penalty.
- 4. A person must not remove a notice referred to in sub-regulation (1) without the authority of the person who caused the notice to be placed.

Penalty for a person who commits the offence as an employee: the regulation 1.15 penalty. Penalty in any other case: the regulation 1.16 penalty.

## 3.3 SAFE WORK PROCEDURE

#### 1. OBJECTIVE

Building management shall maintain documented procedures for identifying, evaluating and controlling hazards due to persons engaged in Industrial Roof Access.

#### 2. SCOPE

This procedure shall apply to all building employees, contractors, and employees of contractors. It should be read in conjunction with the following references.

#### 3. GENERAL REQUIREMENTS

All persons required to work at height shall first be authorised by a person with appropriate responsibility.

#### 4. WORK PLANNING

- Work Location, Timing and Purpose
   The location and purpose of any proposed work at height shall be identified and an appropriate risk assessment performed, including an assessment of environmental conditions.
- Overhead Work

Where there is any possibility that an object or person may fall to where a person may be located below, appropriate measures shall be taken to control the risk, (e.g. all hand tools secured by lanyard, exclusion zones below etc).

- Provision for Rescue
  - All work at height that involves a risk that a person may fall or suffer other trauma shall include an assessment of the method of rescue in the event of an incident occurring, and must therefore be performed by a minimum of two people.
- Training and Supervision
  - Appropriate induction, supervision, instruction and training shall be provided for any employee accessing a roof area or working at height. In particular, adequate supervision and control measures that minimise the risk of misuse of the system shall be put in place.
- Roof Access/Egress
  - Any employee required to work on the roof shall only gain access by use of the permanent access ladders as marked on the Roof map.

#### 5. ROOF WORK

Workers exposed to falls during roof work or window maintenance shall be protected by one of the following means of fall-prevention, which appear in general order of preference:

- · Edge Protection
- · Scaffold
- · Elevated Work Platforms
- Fall-Restraint System / Rope Suspension System

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Workers shall select the most appropriate method of fall prevention, such that a total restraint system is always used as a minimum. Such a system may require use of secondary or diversion anchorages and the use of drop lines, rope-grab devices and roping techniques to avoid pendulum or swing-back effects.

At no time shall a worker place himself/herself in a location which exposes him/her to a fall, (e.g. within three metres of any unprotected edge), without first assembling and attaching to an appropriate anchorage.



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