UNIVERSITY
OF WOLLONGONG
AUSTRALIA

UOW SAFE@WORK

Roof Safety Survey
BUILDING 41

Version 4

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1 Introduction

The following document outlines the Roof Safety Survey (RSS) for Building 41 of the University of Wollongong located at Wollongong Campus Northfields Avenue Wollongong NSW 2522.

2 Purpose

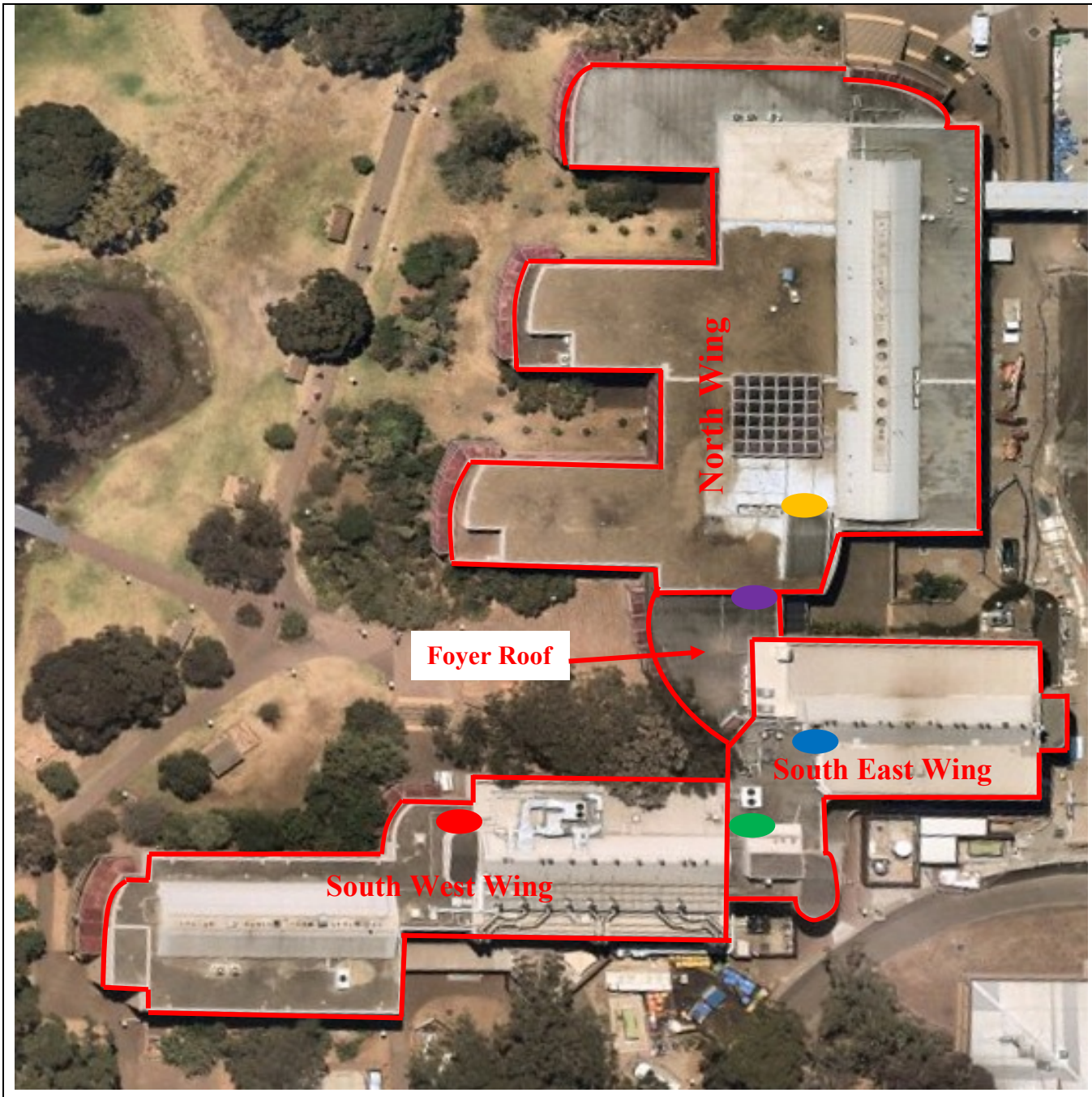
This RSS is to be used as a general guideline to provide awareness and control measures for site personnel and contractors when accessing various roof areas. Personnel must make an assessment prior to accessing the roof. Should there be any potential for falls, all personnel must ensure the necessary fall prevention systems are utilised and operated in a "fall restraint" working mode. All ends users of Fall arrest equipment must be trained to a level of national recognition. All work practices and systems operations must be identified and documented in the risk assessment and safe work method statement.

3 Disclaimer

This document should be used as a general guide for roof access purposes only. Items detailed within this document were in situ at the time of inspection and may change. End users must use caution and evaluate the conditions as suitable to themselves.

Riverlands Roofing and Waterproofing (Louey Models Pty Ltd) accepts no responsibility for the actions of persons accessing these areas and or legislative compliance of fittings and fixtures of the site.

4 Building 41 Roof Area Aerial Photo Zone Layout



Roof Zones:

- South East Wing Roof
- South West Wing Roof
- North Wing Roof
- Foyer Roof

Access Points:

- South East Wing Roof Access Door
- South East Wing Fixed Staircase Access
- South West Wing Roof Access Door
- North Wing Roof Access Door
- Foyer Roof Access Door

5 Risk Management

5.1 Risk Matrix

This risk assessment matrix below must be used reviewing in context with the University's Risk Management Guidelines.

Step 1 – Consider the Consequences

What are the consequences of this incident occurring? Consider what could reasonably have happened as well as what actually happened. Look at the descriptions and choose the most suitable Consequence.

CONSEQUENCES

Step 2 – Consider the Likelihood

What is the likelihood of the consequence identified in step 1 happening? Consider this without new or interim controls in place. Look at the descriptions and choose the most suitable Likelihood.

LIKELIHOOD

Step 3 – Calculate the Risk

1. Take step 1 rating and select the correct column
2. Take Step 2 rating and select the correct line
3. Circle the risk score where the two ratings cross on the matrix below.

H = High, M = Medium, L = Low

Consequence	Description	Likelihood	Description
Severe	Death or extensive injuries	Almost Certain	Is expected to occur in most circumstances
Major	Medical treatment	Likely	Will probably occur in most circumstances
Moderate	First aid treatment	Possible	May occur at some time
Minor	Injury report, no treatment	Unlikely	May occur, but probably never will

LIKELIHOOD	CONSEQUENCES: Minor	Moderate	Major	Severe
Almost Certain	M	M	H	H
Likely	L	M	H	H
Possible	L	L	M	H
Unlikely	L	L	M	M

5.2 Risk Control

Risk control is a method of managing the risk with the primary emphasis on controlling the hazards at source. For a risk that is assessed as "high", steps should be taken immediately to minimize risk of injury. The method of ensuring that risks are controlled effectively is by using the "hierarchy of controls".

The Hierarchy of Controls are:

Order No.	Control Type	Example
Firstly	Eliminate	Removing the hazard, eg taking a hazardous piece of equipment out of service.
Secondly	Substitute	Replacing a hazardous substance or process with a less hazardous one, eg substituting a hazardous substance with a non-hazardous substance.
Thirdly	Isolation	Isolating the hazard from the person at risk, eg using a guard or barrier.
Fourthly	Engineering	Redesign a process or piece of equipment to make it less hazardous.
Fifthly	Administrative	Adopting safe work practices or providing appropriate training, instruction or information.
Sixthly	Personal protective equipment	The use of personal protective equipment could include using gloves, glasses, earmuffs, aprons, safety footwear, dust masks.

For more information on risk management visit:

https://www.uow.edu.au/about/services/safe-at-work/whs-framework

5.3 Contractors Risk Assessment

The below tables have been populated by the University with known hazards that may be applicable for roof work.

All contractors are required to establish their own risk assessment and SWP/SWMS/etc specific to each task they perform, taking into account hazards that may not have been identified by the University.

Assessment of Hazards

Hazard No.	Description of Activity/ Service Item	Description of Hazard (What has potential to cause injury or damage to property/environment?)	Current Controls (What is in place today that controls the risk? List any control measures already implemented)	Risk rating (With current controls in place)		
				Consequence	Likelihood	Risk

Risk Control

Hazard No.	Additional Control Description (What should be done in the future to control the risk? What can be done to eliminate or further reduce the risk?)	Control Type (Elimination, Substitution, Isolation, Engineering, Administration, PPE)	Person Responsible	Risk rating (With additional controls in place)		
				Consequence	Likelihood	Risk

6 Roof Safety Survey Building 41

6.1 Building 41 General Information

Note: Before commencing any work obtain Roof Permit from Facilities Management Division

Building:

University of Wollongong Campus Building 41

Description:

Multi storey buildings with several wings, roof construction consists of concrete / concrete with loose gravel surface and metal roof areas with high pitched dome shaped external plantrooms. Services include air conditioning units, satellite dish, radio frequency hazard, ducts, skylights, roof ventilation, fume cupboards, exhaust stacks and exposed pipework.

SafetyNet Risk Assessment Reference Number:

- UOW01596

Roof Access:

South East Wing Roof Access:

- Access to the South East Wing roof area is via the South East Wing internal stairwell (4) located near room (338). The roof access door is located at the top of the stairwell. A fixed metal staircase located on the South East Wing leads to the raised services platform.

South West Wing Roof Access:

- Access to the South West Wing roof area is via the South Wing internal stairwell (6) located near room (170). The roof access door is located at the top of the stairwell.

North Wing Roof Access:

- Access to the North Wing roof area is via the North Wing internal stairwell (2) located near the main reception. The roof access door is located at the top of the stairwell.

Foyer Roof Access:

- Access to the Foyer Roof is via the North Wing building internal stairwell (1) level 3. The Foyer Roof access door is located within room (326).

Signage:

- Various restricted areas

Compliance Plates:

- Data Plate for Lifelines & Anchor point data tags

Height of Building:

- Multi storey

Pitch:

- < 5 degrees

Roof Construction:

- Concrete & Metal

Structural Integrity:

- Sound

Vegetation:

- Yes (Building has trees growing over the roof area)

Fall Arrest System:

System	Certification Status	Certification By
Anchor Points	Current	Riverlands Roofing
Horizontal Lifelines SALA Evolution (Manufacture's User Manual in link below) https://documents.uow.edu.au/content/groups/public/@web/@ohs/documents/doc/uow236530.pdf	Current	Riverlands Roofing

(End users must follow manufacturer's instructions and use compatible attachments)

Services:

- ☒ Gutters
- ☒ A/C Units
- ☒ Ducts
- ☒ Roof Ventilators
- ☒ Fume Cupboards
- ☒ Radio Frequency Hazard
- ☒ Satellite Dishes
- ☒ Antenna
- ☒ Fiberglass Skylights
- ☒ Pipework
- ☐ Cooling Tower
- ☐ Roof Top Solar Panels

Existing Safety Systems:

- ☒ Horizontal Lifelines
- ☒ Anchor Points
- ☐ Vertical Lifelines
- ☒ Handrail
- ☒ Walkway
- ☐ Parapets

Work Activity & Frequency:

- Clean gutters/routine maintenance – 6 months
- Service A/C plant- monthly

6.2 Building 41 Safety Systems Aerial Photo Layout

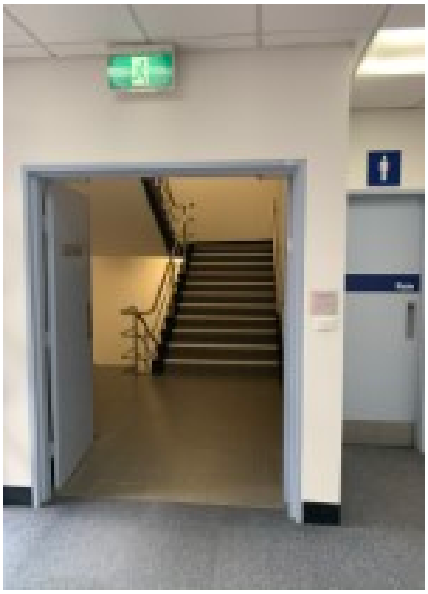
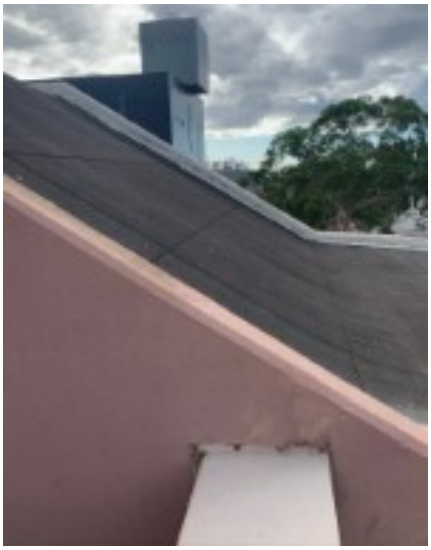
The following aerial photo indicates access points and safety systems layout.

Legend:

SE	South East Wing Roof Access Door		Lifeline
SW	South West Wing Roof Access Door		Radio Frequency Hazard
NA	North Wing Roof Access Door		Anchor Point
FA	Foyer Roof Access Door		

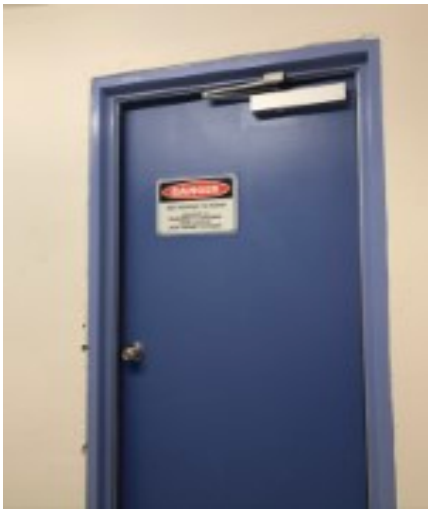
6.3 Building 41 Roof Photos

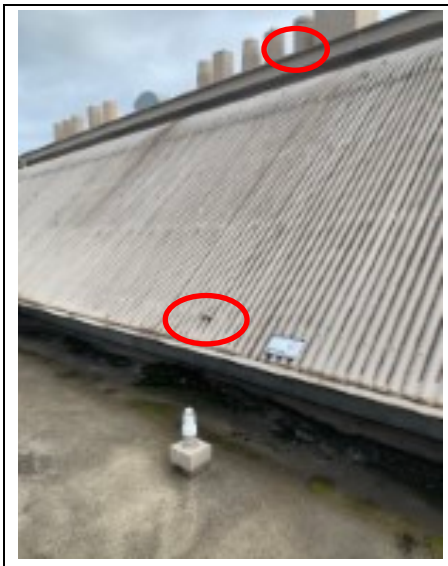
South East Wing

 Building 41 South East Wing internal stairwell (4) located near room (338).	Building 41 South East Wing The roof access door is located at the top of the stairwell	Building 41 South East Wing roof area with exposed pipework and air conditioning units
Building 41 South East Wing roof area with services and exposed pipework	 Building 41 South East Wing area stairwell roof access structure **(Caution no access to this area)**	Building 41 South East Wing fixed staircase to raised services platform

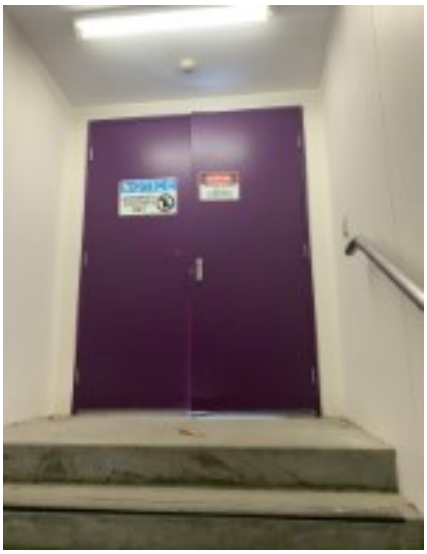
Building 41 South East Wing raised services platform with fume cupboards & services	Building 41 South East Wing raised services platform with walkway and exposed pipework	Building 41 South East Wing raised services platform with walkway and exposed pipework
Building 41 South East Wing Caution radio frequency hazard	Building 41 South East Wing roof area with exposed pipework and exhaust stacks	Building 41 South East Wing Walkway Caution exposed electrical cable across walkway
Building 41 South East Wing roof area with fume cupboards	Building 41 South East Wing roof area with walkway & handrail with roof ventilation ducts	Building 41 South East Wing roof area with exposed pipework & roof ventilation ducts

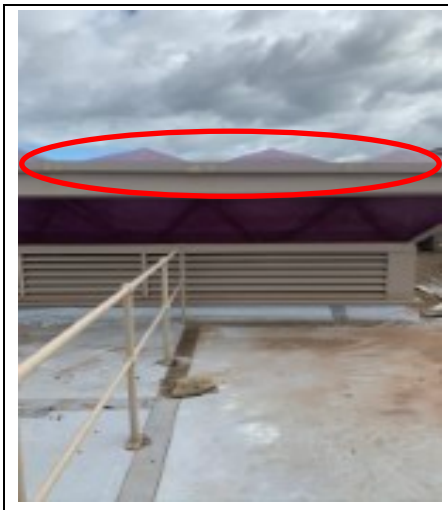
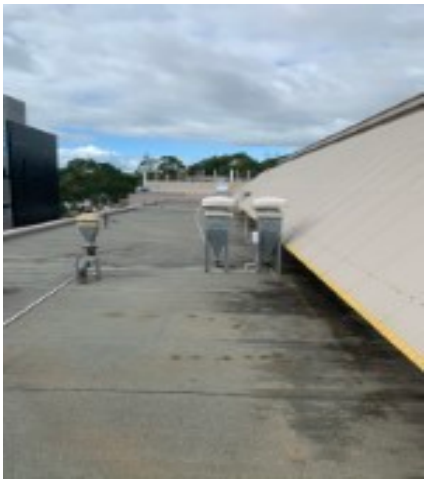
South West Wing

 Building 41 South West Wing internal stairwell (6) located near room (170)	 Building 41 South West Wing The roof access door is located at the top of the stairwell	 Building 41 South West Wing roof access door external view (exit)
 Building 41 South West Wing roof area with walkway, handrail & roof ventilation ducts	 Building 41 South West Wing roof area with roof ventilation ducts	 Building 41 South West Wing raised platform staircase
 Building 41 South West Wing raised platform with fume cupboards & exhaust stacks	 Building 41 South West Wing external plant room	 Building 41 South West Wing roof area with exposed pipework & services

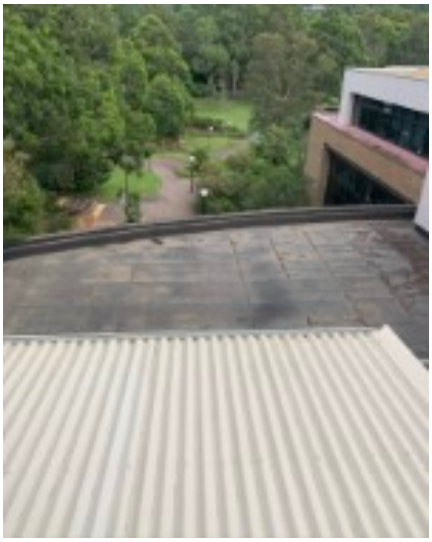
 Building 41 South West Wing external plant room with Anchor points (Certification by Riverlands Roofing Status Current)	Building 41 South West Wing roof area with air conditioning unit (Caution no parapet on edge)	

North Wing

Building 41 North Wing internal stairwell (2) located near the main reception	 Building 41 North Wing The roof access door is located at the top of the stairwell	Building 41 North Wing roof access door external view (exit)

 Building 41 North Wing roof area with handrail & atrium structure with skylights	Building 41 North Wing roof area with loose gravel surface	Building 41 North Wing roof area with loose gravel surface (Caution no parapet on edge)
Building 41 North Wing external plant room access door	Building 41 North Wing roof area with loose gravel surface	Building 41 North Wing roof area with loose gravel surface (Caution no parapet on edge)
Building 41 North Wing roof area with SALA Evolution lifeline (Certification by Riverlands Roofing Status Current)	 Building 41 North Wing roof area with roof ventilation services (Caution no parapet on edge)	Building 41 North Wing roof area with antenna (Caution no parapet on edge)

Foyer Roof

Building 41 Foyer Roof Access Door located on level (3) within room (326)	 Building 41 Foyer Roof area (Caution no parapet on edge)	

7 Program Evaluation

Conditions that might warrant a review of the guidelines on a more frequent basis would include:

- changes to the roof
- change in the relevant legislation or Australian Standards
- organisational needs or WHS Committee concern.

8 Related Documents

- Managing the Risk of Falls Guidelines
- Working at Heights Rescue Plan
- Roof Access Permit
- Roof Access Procedure

9 References

9.1 Legislation

- NSW Work Health and Safety Regulation 2017 Part 4.4 Falls
- NSW Public Health Regulation 2012
- Public Health Amendment (Legionella Control) Regulation 2018

9.2 Australian Standards

- AS 1657: Fixed platforms, walkways, stairways and ladders - Design, construction and installation
- AS 1891.1: Industrial fall-arrest systems and devices - Harnesses and ancillary equipment
- AS 1891.2: Industrial fall-arrest systems and devices - Horizontal lifeline and rail systems
- AS 1891.3: Industrial fall-arrest systems and devices - Fall-arrest devices
- AS 1891.4: Industrial fall-arrest systems and devices - Selection, use and maintenance
- AS 2210.1: Safety, protective and occupational footwear - Guide to selection, care and use
- AS 3666: Air-handling & Water Systems for Buildings - Microbial Control
- AS 4994.1: Temporary edge protection - General requirements
- AS 4994.2: Temporary edge protection - Roof edge protection - Installation and dismantling
- AS 5532: Manufacturing requirements for single-point anchor device used for harness-based work at height
- AS 2550.10 – 2006 Crane, Hoists and lifting equipment. section 5.9

9.3 Codes of Practice

- Managing the Risk of Falls at Workplaces (SafeWork NSW)
- NSW Guidelines for Legionella Control in Cooling Water Systems

10 Version Control Table

Version Control	Date Released	Approved By	Amendment
1	November 2012	Manager WHS	New document
2	January 2016	Manager WHS	Review and update
3	February 2018	Manager WHS	Revision and update
4	October 2020	Manager WHS	Document recreated by GO from Riverlands Roofing. All information reviewed/updated.

11 Appendix A: Sample Images

Before contractors use any Fall Arrest System (lifeline or Anchor point) users must complete the following:

- Locate the fall arrest systems data plate or data tag.
- Validate that the system is current and that a yearly certification has been completed.
- Complete a personal visual & physical inspection of the system.
- Users must never exceed the MAX LOAD or USERS of the system.

Fall Arrest System Data Plate	Anchor Point Data Tag