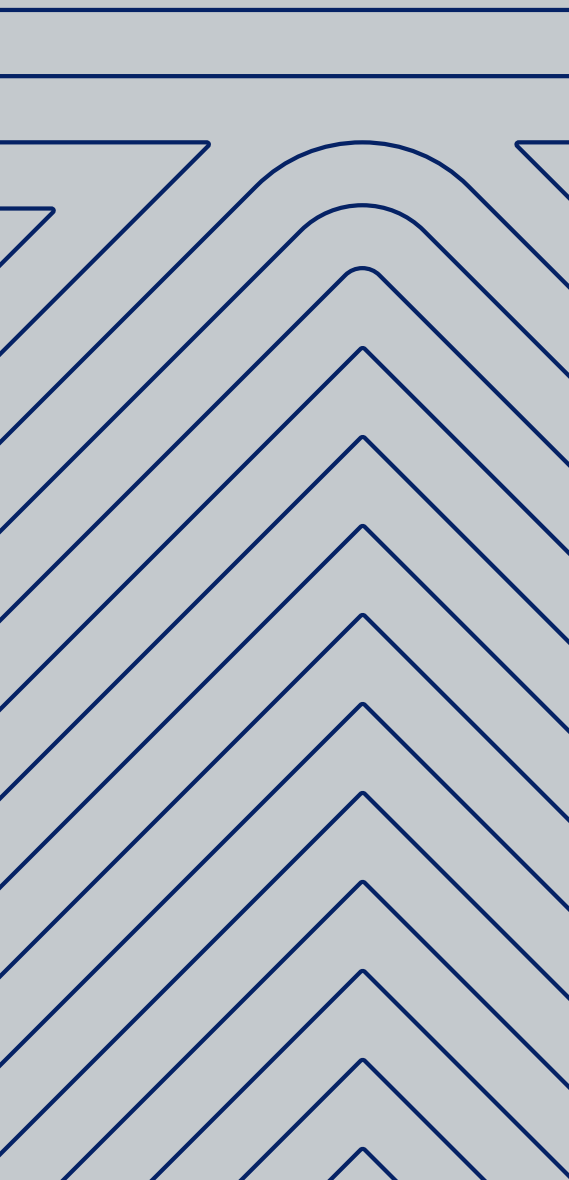




OPERATION MANUAL

ROPE ACCESS ANCHORS



Kattsafe rope access anchors for
maintenance personnel to access
building façades.



Operations manual
Rope access anchors

Find all related products and resources on our website
kattsafe.com.au

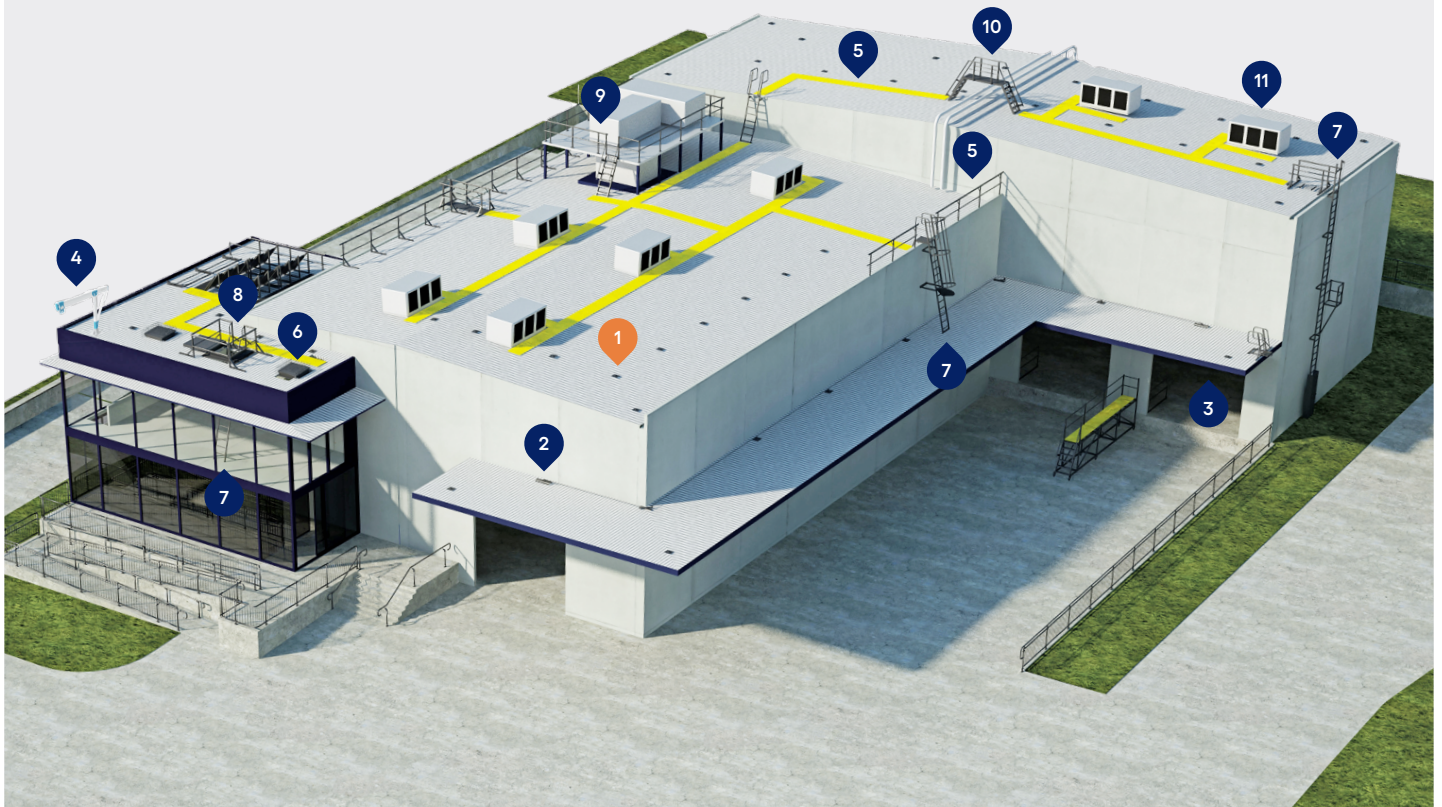
Commercial building height access and fall protection requirements

Kattsafe leads the industry in the design, installation and management of access and fall protection safety systems.

The in-action model demonstrates access and fall protection requirements for a commercial building design. Kattsafe recommendations fulfill current workplace requirements for the safety of building maintenance subcontractors, employees and the general public.

For more information please contact Kattsafe.
kattsafe.com.au

-
- 1 Anchor points
 - 2 Static lines
 - 3 Rigid rail
 - 4 Davits and needles
 - 5 Guardrail and walkway
 - 6 Skylight protectors
 - 7 Rung ladders
 - 8 Access hatches
 - 9 Platforms and stairs
 - 10 Step ladders
 - 11 HVAC platforms

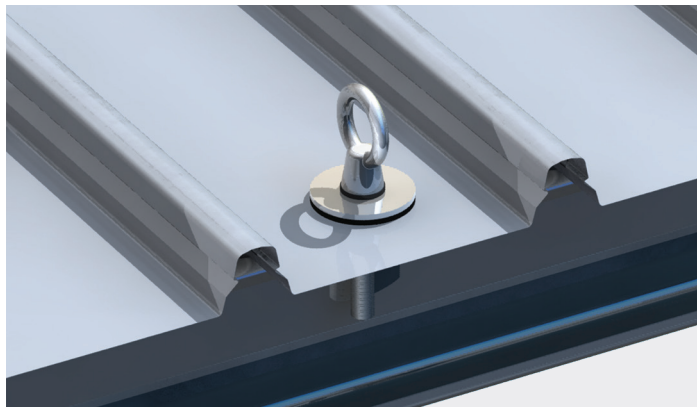


ROPE ACCESS ANCHOR RANGE

AP118 Raised concrete mount anchor



AP123 Purlin mount anchor



AP124 Through bolt anchor



AP125A Concrete mount anchor



AP125S Swivel concrete mount anchor



AP126 Concrete mount anchor with torque indicator



AP127 Concrete mount anchor kit



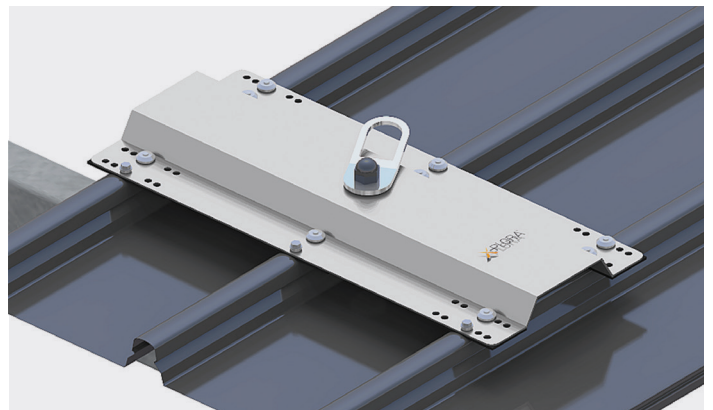
AP129A Concrete cast-in anchor



AP129V Concrete cast-in anchor with threaded rod



AP141 Tope mount rope access anchor



OPERATION REQUIREMENTS

Must be read prior to use

1. Prior to use, ensure all operating procedures have been read and understood.
2. This rope access system is only to be used by competent persons who have experience and training in the safe use of the system and associated equipment.
3. Ensure all WHS requirements are identified and understood. A risk assessment with a safe work method procedure must be completed and approved by management prior to work commencing.
4. This system requires periodic inspection and maintenance by a qualified rope access inspector. The system MUST NOT be used if the service date is overdue.
5. A rescue plan must be devised and be ready to be implemented prior to usage of a rope access system.
6. Authorisation to enter any risk area must be obtained from the workplace manager prior to accessing.
7. Only approved rope access harness, gear and equipment certified to Australian Standard AS/NZS ISO 22846, to be used with this system.
8. Visually inspect the system for damage prior to use. System must not be used if there is any deterioration or deformation of any components or structure to which the system is attached.
9. If the rope access system is damaged or has arrested a fall, discontinue use until it has been fully inspected and recertified by a competent height safety equipment inspector.
10. Ensure all fixings, fittings and components are securely attached. Any tightening, adjustment or replacement of components must be carried out by a competent height safety inspector.
11. Rope protectors are required wherever rope lines pass over an edge.
12. Where rope lines will potentially damage an edge, then an edge protection device will be required to spread rope access loads during operation.
13. Persons must not be allowed to work alone during rope access operations in case emergency rescue assistance or first aid is required.
14. All applicable Australian Standards, WHS Acts & Regulations, and Codes of Practice & Guidelines must be read and obeyed when using this safety system.
15. This operation manual does not in any way, replace the need for completion of a recognised rope access training course by a Registered Training Organisation (RTO).



Failure to follow all warnings, operation and maintenance instructions may result in serious injury or death.

SYSTEM LIMITATIONS

Must be read prior to use

1. Only to be used by competent persons with proof of training by a Registered Training Organisation (RTO) in the use of height safety and rope access systems.
2. Harness gear is susceptible to deterioration when exposed to chemicals or hazardous environments and must be approved by the manufacturer for use in these applications.
3. Each Kattsafe rope access anchor point is rated to 12kN. Structure to which anchors are attached must withstand this load.
4. Two attachment points are required per person. Primary anchors should not be further than 1.0m apart.
5. Operators of this system must be connected via certified harness gear, carabiners and abseil rope lines.
6. The system must be set up so that the operator's lanyard does not exceed 20° tension loading causing excessive load on the system.
7. Do not tamper with system components.
8. This system is not to be used for tethering or lifting machinery or equipment.
9. The safety system must be recertified by a competent height safety inspector as recommended:
 - Non corrosive/mild environment – 12 monthly
 - Corrosive/harsh environment – 6 monthly (more frequent inspection may be required).



Kattsafe recommends that persons using rope access systems do not work alone in case of an emergency and help is required.

Should any part of the system/equipment have been subjected to abnormal loading, use must be discontinued until replaced/recertified by a competent rope access inspector.

AUSTRALIAN STANDARDS SUMMARY

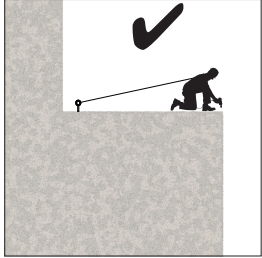


Figure 1
CORRECT Anchor loading in shear.

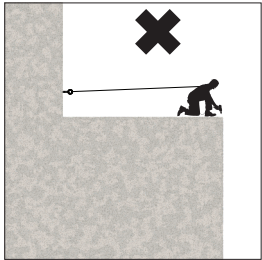


Figure 2
INCORRECT Anchor loading in tension. (Through bolt or cast in anchors acceptable)

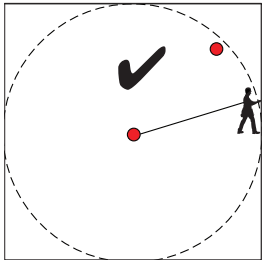


Figure 3
CORRECT Anchor positioning, NO risk of pendulum fall.

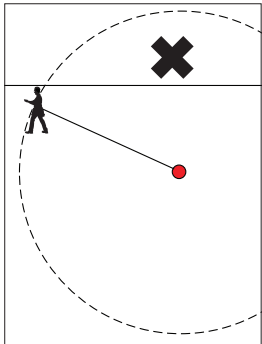


Figure 4
INCORRECT Anchor position, allows risk of pendulum fall.

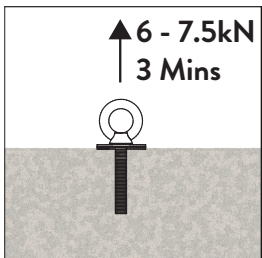


Figure 5
Glued in or friction fit anchors require proof load testing to 50% of the design load for 3 minutes without any anchor movement.

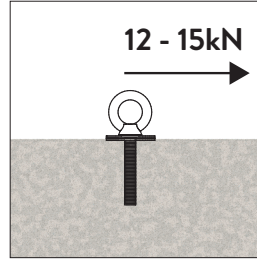


Figure 6
Load rating single person use
- 12kN design load - rope access/
single person
- 15kN design load - fall arrest/
single person

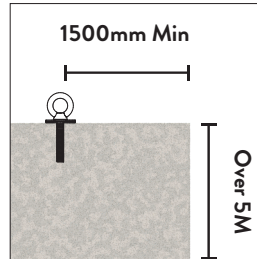


Figure 7
Anchor positioning for fall arrest
minimum 1500mm from edge if
vertical height is over 5000mm.
*See fall clearance page 28

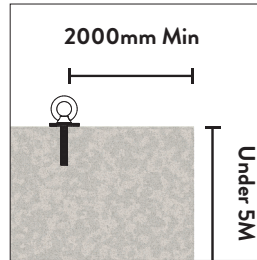


Figure 8
Anchor positioning fall arrest
minimum 2000mm from edge if
vertical height is under 5000mm.
*See fall clearance page 28

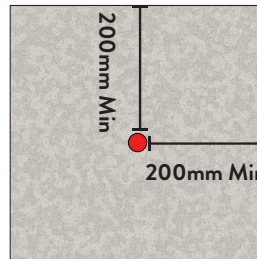


Figure 9
Minimum edge distance and
between anchors on concrete slab
to avoid cracking - 200mm.

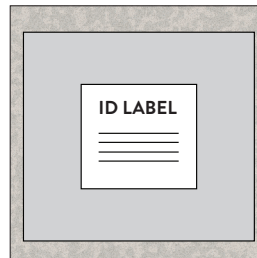


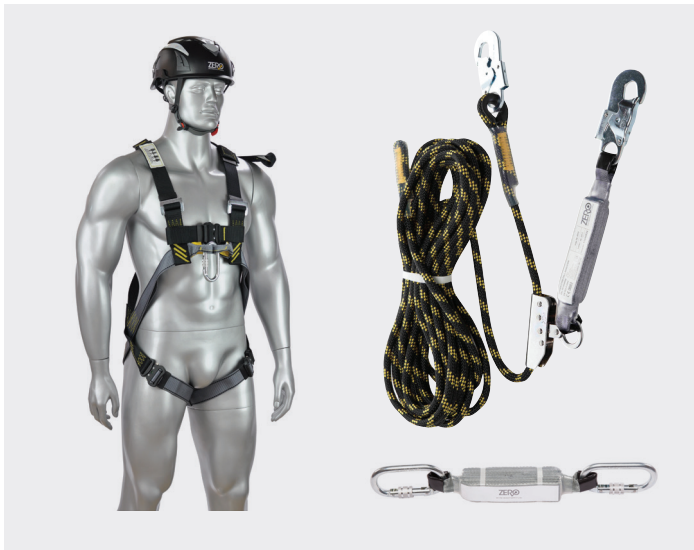
Figure 10
Anchor must include identification
label confirming load rating
and maintenance records, and
installer/certifier details.

SAFE USE PROCEDURE

Step 1

Ensure a certified rope access harness is used and once fitted that straps are properly adjusted to ensure firm but comfortable fit.

⚠️ Harness gear must be certified to Australian Standards AS/NZ 1981.1:2009. And ensure system serviceability dates are current.



Step 3

There must be two individual points of attachment (anchor points) for rope access.

⚠️ Ensure anchor points are rated to rope autocross loads and are in service.



Step 2

Barricade area work zone, to ensure access by unauthorised persons is prohibited.



Step 4

Attach working line and safety line to Kattsafe anchor points via certified carabiners.

⚠️ Ensure working line and safety line are attached to separate connection points.



Step 5

Check all attachment hardware and ropes.

- ⚠ Any damage to the system must be reported to the workplace manager and removed or tagged out of service until recertified by a competent height safety inspector.



Step 7

Connect descender device to working line.

- ⚠ Ensure all attachment hardware is correctly and securely attached, prior to moving into the 'Fall Zone'.



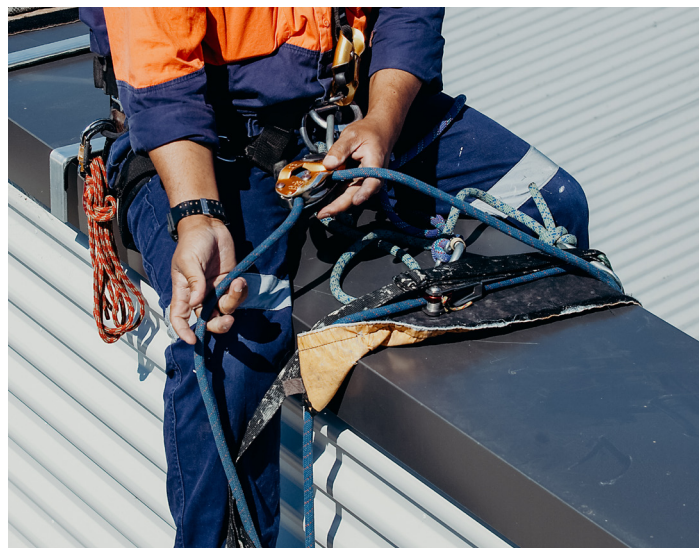
Step 6

Connect rope grab device (backup) to safety line



Step 8

Use a rope protection device wherever rope lines pass over an edge. See page 16 for protection devices.



Step 9

Attach foot strap with rope grab device to safety line.



Step 11

Remove foot strap rope grab device from safety line and attach to tool loop on harness.



Step 10

Step into foot strap and climb over edge.

⚠ Operator must ensure the descender and backup device have been positioned correctly with no slack rope line between attachment point and operator.



Step 12

Descend on rope lines to carry out work to be done on facade.

⚠ Suitable protection maybe required to protect facade being worked on.



SAFE USE PROCEDURE FOR HIGH PARAPETS

Step 1

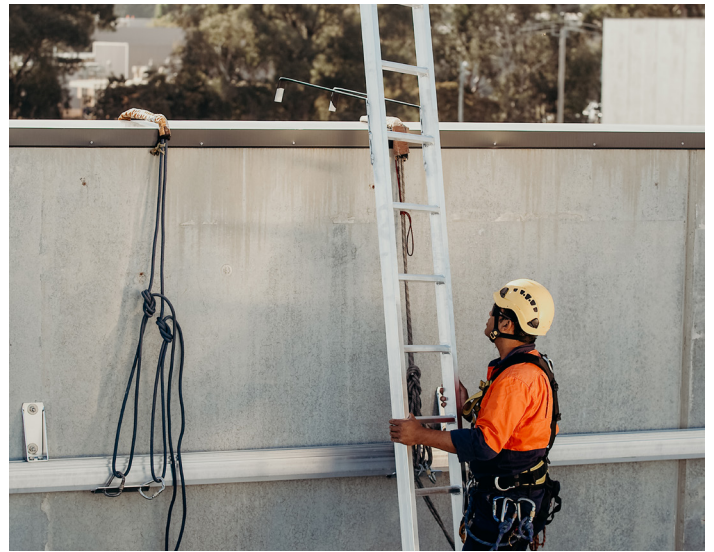
Retrieve portable ladder.



Step 2

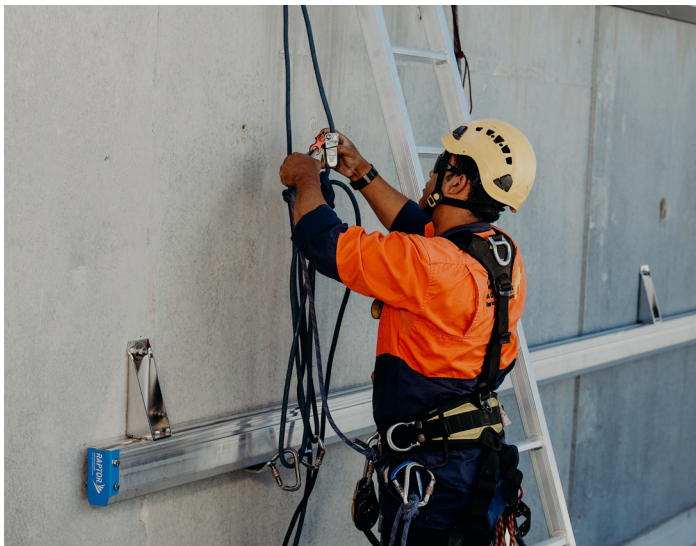
Locate ladder beside rope lines.

⚠ Ensure hooks locate securely over parapet and base is secure.



Step 3

Connect rope grab device (backup) to safety line.



Step 4

Climb ladder.



Step 5

Straddle parapet and connect descender device to working line.

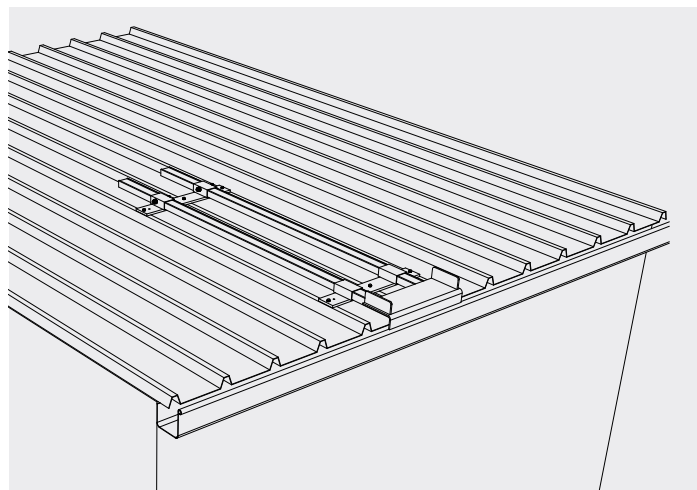
- ⚠ Ensure all rope line attachment hardware is correctly and securely attached prior to moving into the 'Fall Zone'.



GENERAL SAFE USE PROCEDURES

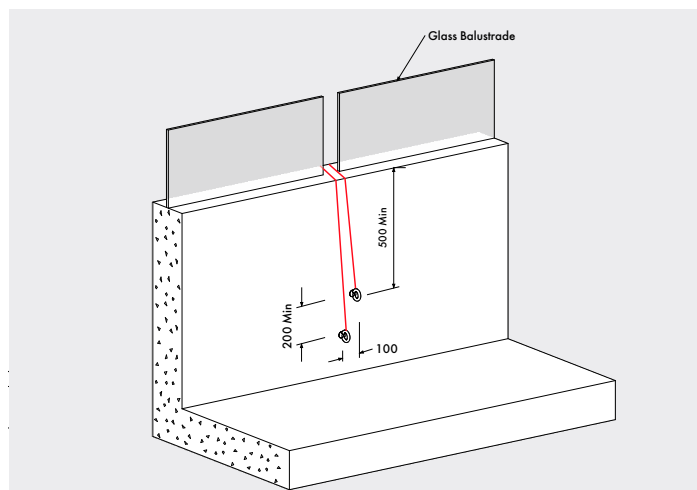
Access over eaves gutter

When accessing over an eaves gutter use gutter edge protection device, see example.



Access over glazed balustrade

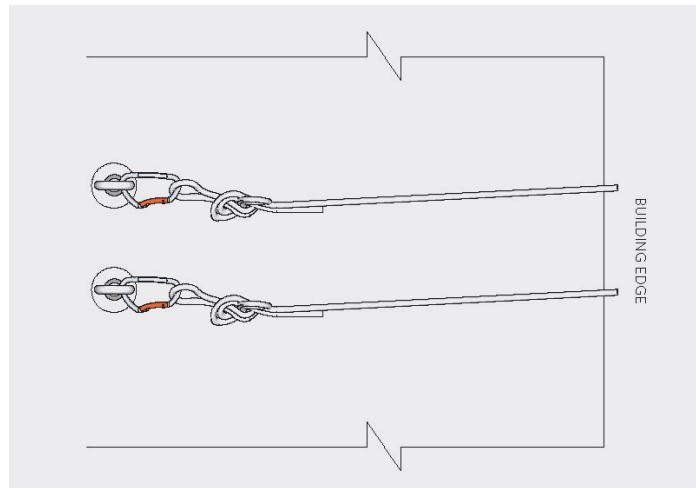
When accessing over glazed balustrade rope lines must be passed through vertical gap between balustrade panels of not less than 50mm wide, see example.



ROPE AND ATTACHMENT SAFE USE PROCEDURE

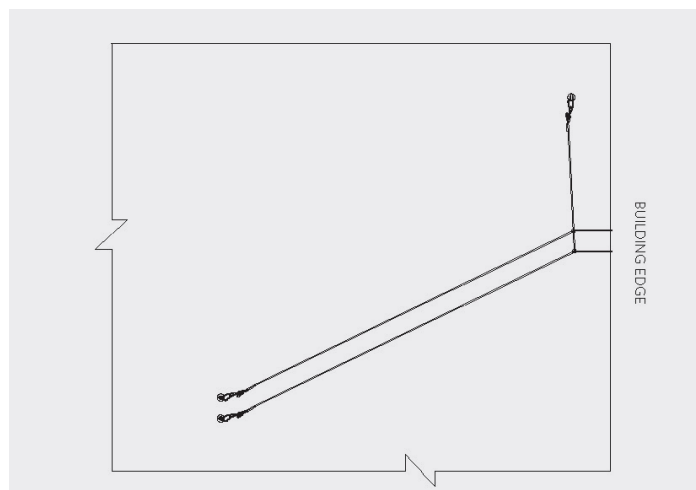
Attachment of abseil rope lines to anchor points

- Working line and safety line must be connected to separate anchors.
- Rope protection device must be used where the edge could damage the rope line when in use.



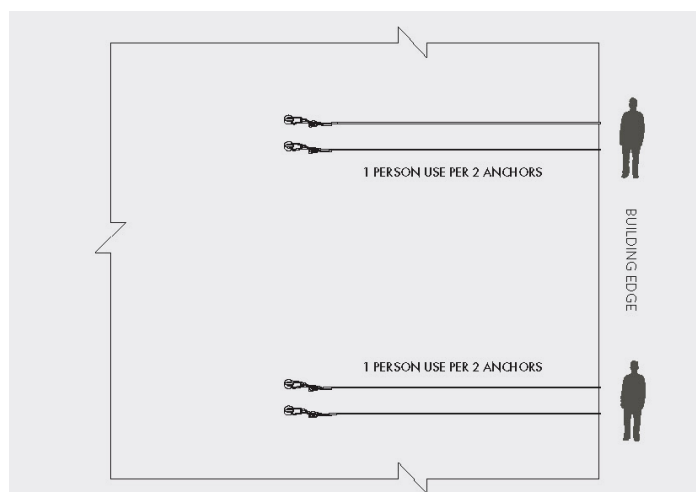
Typical rope access set-up using diversion system

- Diversion anchors to be rated at 12kN
- Diversion lanyard to be attached to working and safety line using approved rope access procedures

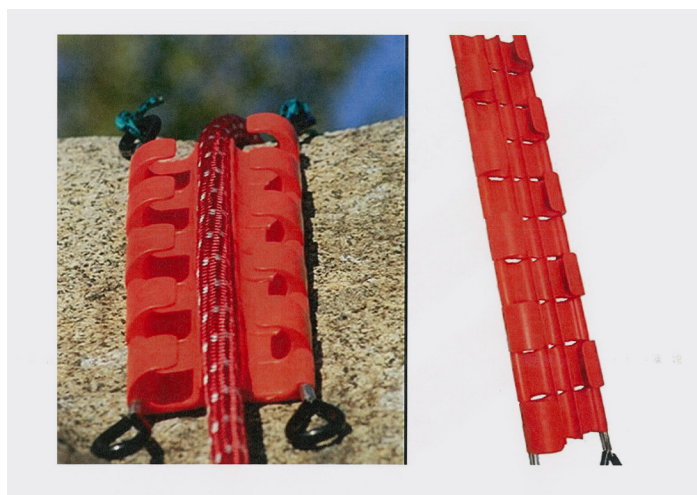
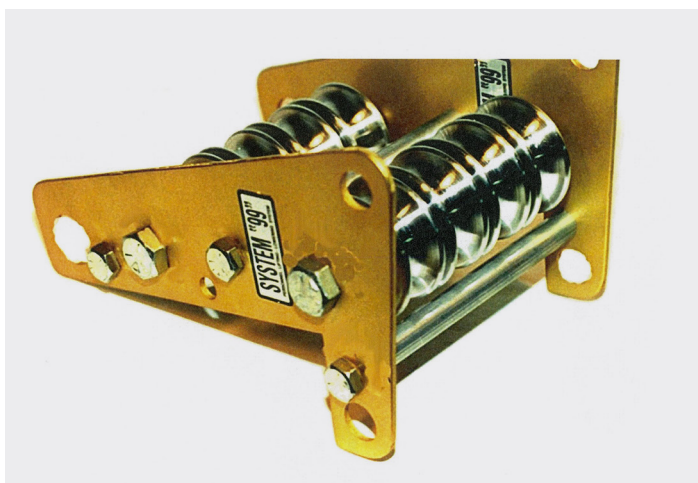
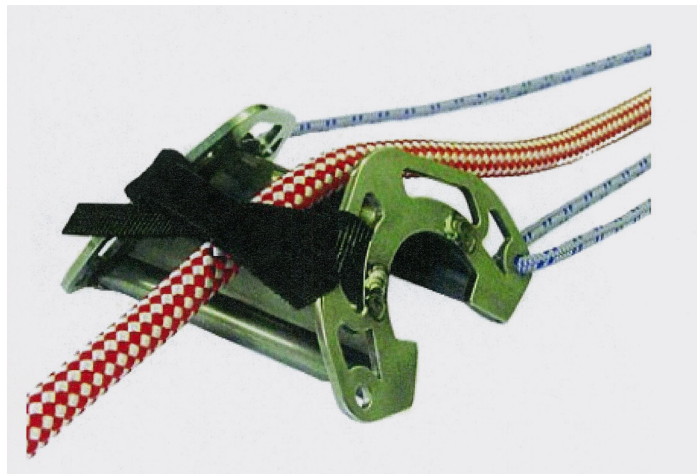
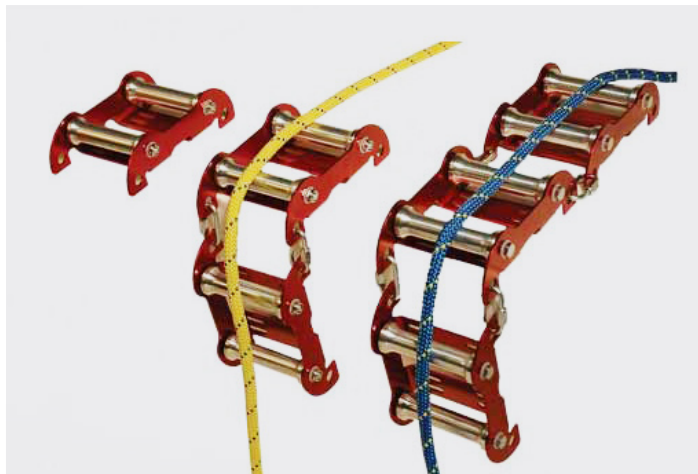


Multiple rope access operators

- It is important that each set of anchors is used by one person only unless the anchorage device clearly states otherwise and has been designed for multiple operators.



ROPE ACCESS PROTECTION DEVICES

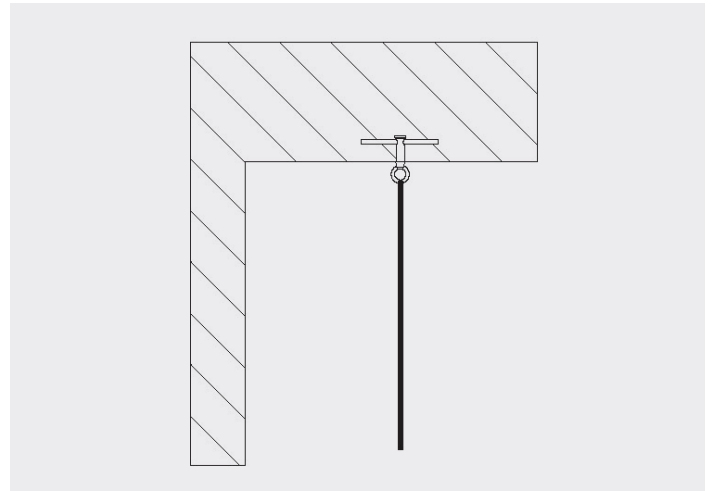


ANCHOR MOUNTING OPTIONS

Overhead mount

- Anchor must be 12kN rated
- 2 x anchors required per rope access operator
- Used for re-belay application

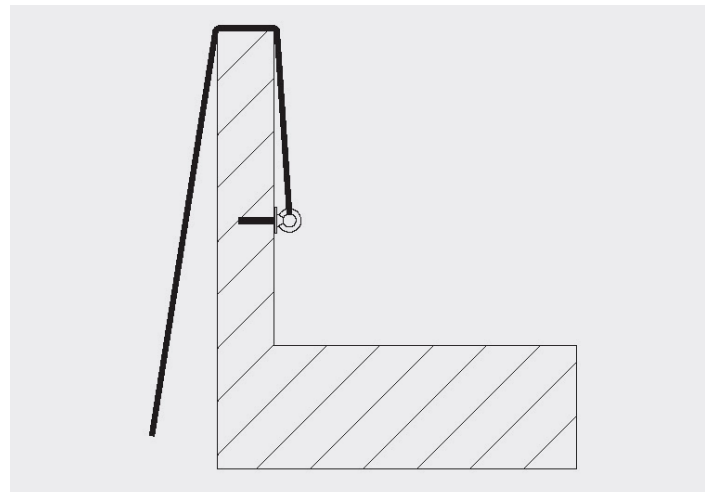
⚠ Anchors to be cast-in or through bolted when mounted overhead (loaded in tension).



Side mount

- Anchor must be 12kN rated
- For parapet mount application

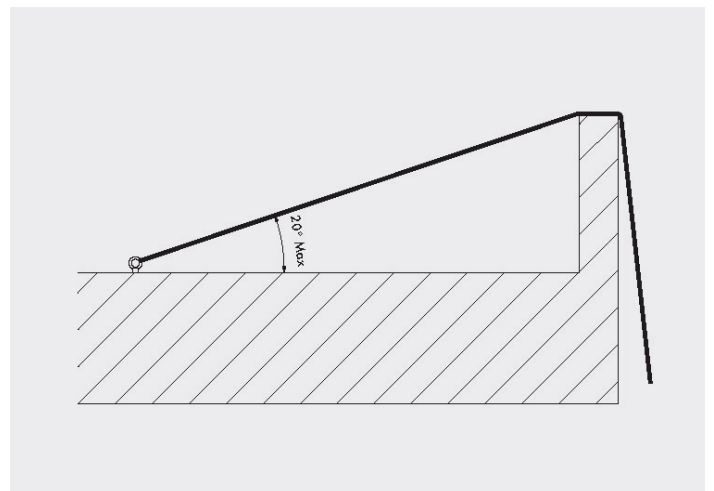
⚠ Top edge of parapet to be rated to 12kN to support rope access load.



Multiple rope access operators

- Anchor must be 12kN rated
- For roof mount application
- Lanyard must not exceed 20° causing excessive tensile load on the anchor

⚠ Top edge of parapet to be rated to 12kN to support rope.



SYSTEM MAINTENANCE

Must be read prior to checklist


1. The anchor system needs to be checked and recertified by a competent height safety inspector every 12 months for non corrosive environments or 6 monthly for corrosive or harsh environments. (To be determined by competent person depending on severity of surrounding conditions.)
2. Never clean using acids or other chemicals that could damage the system components.
3. The energy absorbing eyelet is subject to wear depending on frequency of usage. Any signs of excessive wear will require the anchor to be replaced.
4. The identification label must be completed confirming certification, maintenance and recertification of the system.
5. Harness gear and equipment must be maintained and stored in a dry, protected area, away from acids and ultra violet rays which cause material fibres to break down and reduce their safety and life expectancy.
6. Any deterioration or damage to the system or equipment must be reported to person in control of the workplace and relevant corrective action undertaken.
7. Maintenance inspections must be clearly documented. Any non-conformance must be clearly identified and tagged 'Do Not Use' until corrective action by a competent person has been completed.



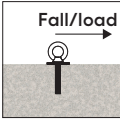
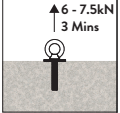
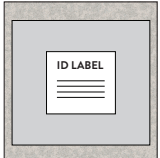
CONCRETE MOUNT ANCHOR MAINTENANCE CHECKLIST

The checklist below outlines key checking criteria required to ensure the safe use of this system. Any item of concern not shown on the checklist must be noted on the maintenance report and brought to the attention of the workplace manager.

Items ticked PASS - YES means they conform with the required checking criteria and are suitable for normal use until the next recertification date. System data plates must be updated showing current check date and next check date.

Item ticked PASS - NO means they do not conform to the required checking criteria. These items must be clearly tagged 'Do Not Use' and the required corrective actions put in place. The maintenance report must clearly document all non-conforming criteria.

 **This system must be maintained by a competent height safety inspector trained in the safe use and maintenance of this system.**


Component	Inspection criteria	Pass Y/N	Corrective action	Completion date
Structure 	Concrete structure to be visually sound			
	No evidence of cracks or flaky surface			
Anchor 	No evidence of anchor deterioration or damage.			
	Removeable anchors must be threaded into sleeve by a minimum 20mm or 10 full turns.			
Positioning 	Anchor to be correctly tensioned and facing the load / fall direction.			
Load testing 	Glued in anchors secure under live load test to 50% of ultimate design load for 3 minutes. – Rope access 12kN - 6kN load test – Fall arrest 15kN - 7.5kN load test			
Data label 	Anchor data label attached at each anchor.			
	All relevant data filled out including next maintenance due date.			

PURLIN MOUNT ANCHOR MAINTENANCE CHECKLIST





The checklist below outlines key checking criteria required to ensure the safe use of this system. Any item of concern not shown on the checklist must be noted on the maintenance report and brought to the attention of the workplace manager.

Items ticked PASS - YES means they conform with the required checking criteria and are suitable for normal use until the next recertification date. System data plates must be updated showing current check date and next check date.

Item ticked PASS - NO means they do not conform to the required checking criteria. These items must be clearly tagged ‘ Do Not Use’ and the required corrective actions put in place. The maintenance report must clearly document all non-conforming criteria.



This system must be maintained by a competent height safety inspector trained in the safe use and maintenance of this system.


Component	Inspection criteria	Pass Y/N	Corrective action	Completion date
<div>Anchor</div> 	Anchor to be secure with no rotation of eyelet or movement in profiled flange			
<div>Eyelet</div> 	Anchor eyelet to be facing fall direction i.e. parallel with roof sheet direction.			
<div>Roof deck</div> 	Roof deck and steel support structure quality in good condition i.e. No visible rust or roof deterioration.			
<div>Data label</div> 	Anchor data label attached at each anchor.			
	All relevant data filled out including next maintenance due date.			

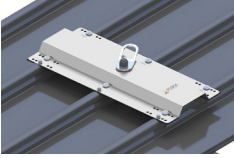
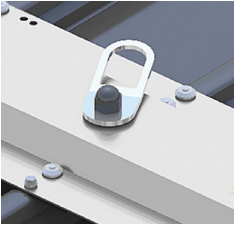

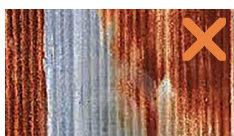
TOP MOUNT ROPE ACCESS ANCHOR MAINTENANCE CHECKLIST

The checklist below outlines key checking criteria required to ensure the safe use of this system. Any item of concern not shown on the checklist must be noted on the maintenance report and brought to the attention of the workplace manager.

Items ticked PASS - YES means they conform with the required checking criteria and are suitable for normal use until the next recertification date. System data plates must be updated showing current check date and next check date.

Item ticked PASS - NO means they do not conform to the required checking criteria. These items must be clearly tagged 'Do Not Use' and the required corrective actions put in place. The maintenance report must clearly document all non-conforming criteria.

 **This system must be maintained by a competent height safety inspector trained in the safe use and maintenance of this system.**

Component	Inspection criteria	Pass Y/N	Corrective action	Completion date
Fixings 	Fixings to structure secure (min. 2 fixings to purlin, 8 fixings to roof deck)			
	Screws into structure must be verified by removing and checking if uncertain.			
	Fixings to roof deck structure secure.			
	No evidence of penetration seal deterioration.			
Eyelet 	Ensure eyelet fixing connection to plate is secure, max 5mm play between eyelet and plate.			
	No evidence of eyelet damage or deformation.			
	Ensure eyelet rotates freely.			
Data label 	Data label attached and clearly visible.			
	All relevant data filled out including last maintenance date.			
Roof deck 	Roof deck quality in good condition i.e. No visible rust or roof deterioration.			

TECHNICAL INFORMATION

System requirements

The worker must wear a certified rope access harness when connected to the anchor compliant with AS/NZS 4488.

Harness connectors must be rated to at least 12kN.

Non-compatible connectors may unintentionally disengage (roll-out). Carabiners supplied with proprietary systems must not be removed or substituted with any other component.

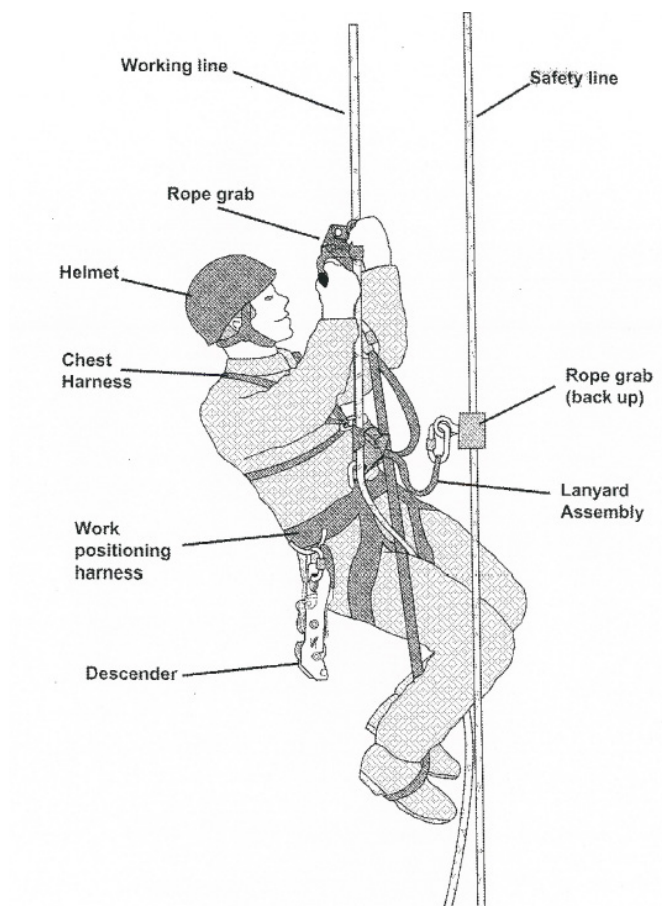
Important note

Failure to supply and/or install Kattsafe proprietary products in accordance with Australian Standards compliance codes, Kattsafe specifications and instructions voids complete system certification and/or warranty.

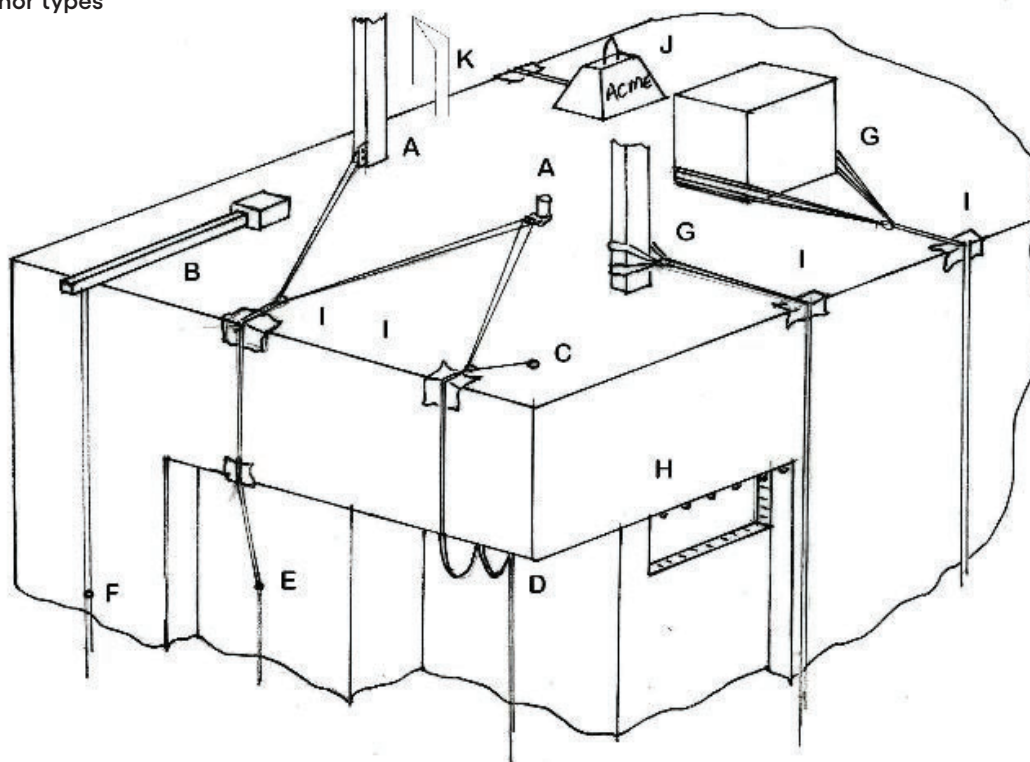
Inspection and maintenance

Inspection and recertification of abseil systems and equipment is required at least every 12 months by a qualified rope access inspector in accordance with manufacturer's specifications and requirements of Australian Standard AS/NZS ISO 22486.

Typical abseil operator diagram



Rope access anchor types



REF	Anchor type	Ultimate load (kN)	Comments
A	Primary anchor	12	Design for 15kN where possible to also suit fall arrest
B	Counterweight anchor (sometimes known as a 'needle')	12	
C	Diversion anchor	12	Assists in varying the lateral positioning of the working rope line
D	Re-anchor (sometimes called a re-belay)	12	Where access is required underneath an overhang
E	Deviation anchor	6	Based on 20° max vertical deviation
F	Lateral restraint anchor	2	Stops lateral swing in windy or high access locations
G	Improvised anchor (using slings) in the cases above, use of a steel column and a lift motor room has been made but sometimes other devices are used such as rocks, trees, vehicles, machines etc		A structural engineer must be consulted unless it is not clear to a competent person that the improvised anchor will be capable of the load required.
H	Aid route anchor		
I	Edge protection		Prevents damage to rope line over sharp edges
J	Dead weight anchor	12	Designed as a portable anchor
K	Davit (primary anchor)	12	Where access over parapets or balustrades are required

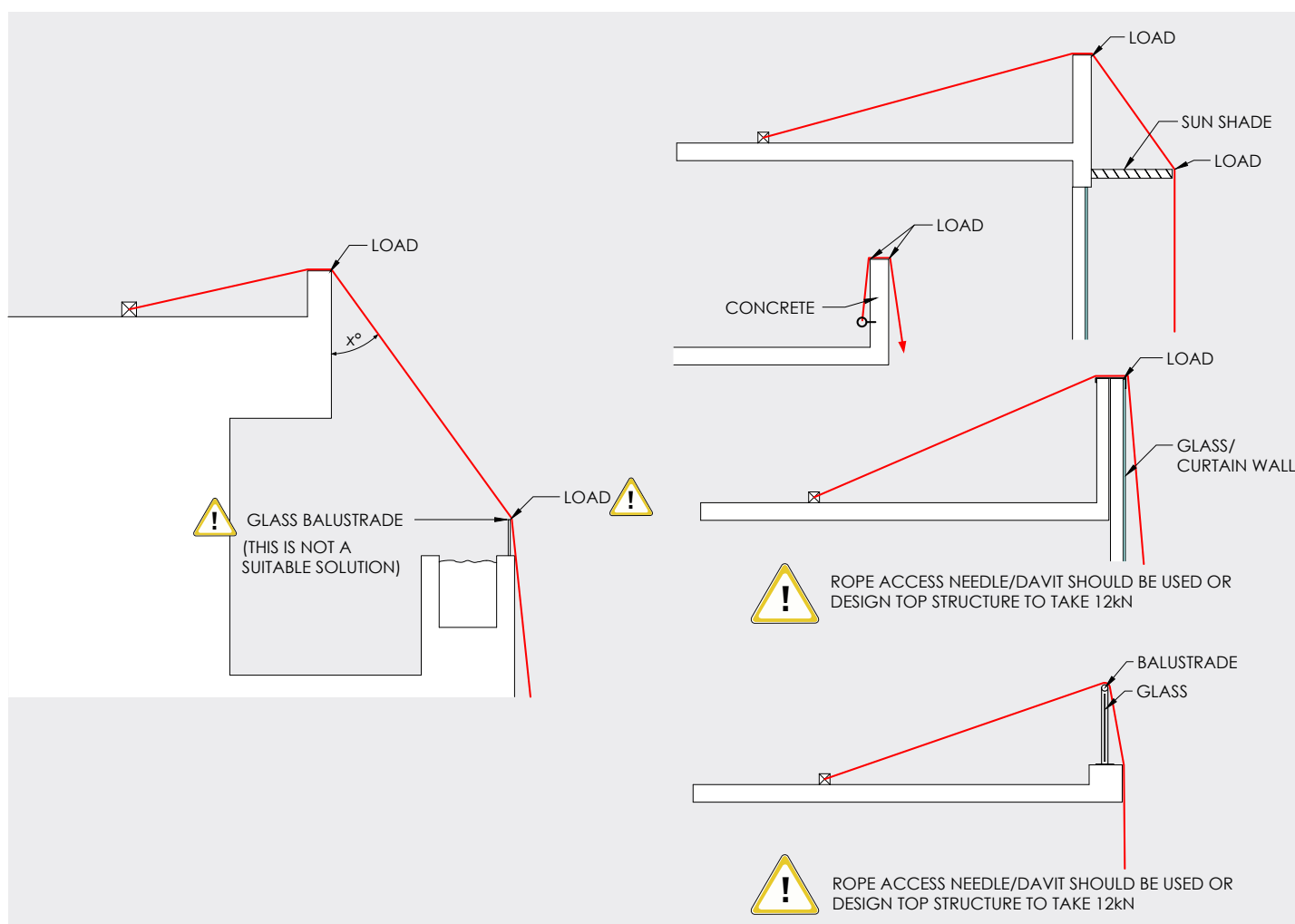
Rope access loads

Working load: 400kg (4kN) (serviceability load)

Ultimate load on rope: 1200kg (12kN)

A risk assessment should be done for all areas where the rope will be loading edges. For critical structures, if ultimate load was applied to the edge could cause catastrophic failure, then edge capacity needs to be designed for the ultimate loads so that if a fall did occur there would be no damage to the structure or cause injury to the operator. (Eg brick parapets, curtain walls, balustrade with glass)

For non-critical structures, if ultimate load was applied to the edge but would not cause catastrophic failure, then edge capacity may be designed for serviceability loads (eg, aluminium sun shade). However if a fall was to occur, there may be superficial damage but no catastrophic failure. It is the responsibility of the building designer to analyse risk. Note, for non structural edges (such as aluminium cladding) a load spreader plate can be used to minimise damage.



 **Diagram not to scale. For illustration purposes only.**

TECHNICAL SPECIFICATION

Rope access anchors

Rope access anchors for access to building façades. System design, supply, layout, installation and certification by a Kattsafe approved installer, as per the manufacturer's installation instructions and current standards.

Materials

- Stainless steel

Dimensions

- See specific anchor brochures for more details.

Weight

- See specific anchor brochures for more details.

Fixings (refer to installation manual)

- See installation procedure.

Working load limit

- Rope access rating 12kN
- Fall arrest rating: 15kN

Compliance

Kattsafe rope access anchors are designed and manufactured in accordance with requirements of Australian Standard AS/ NZS 1891.4:2009, AS/NZS ISO 22846 and AS/NZS 5532:2013 and relevant statutory OHS Codes of Practice/Guidelines.

Testing

Testing and performance based on requirements of Australian Standard AS/NZS 5532:2013.

- Dynamic load tested – 15kN
- Static load tested – 15kN

Product warranty

10 Years from date of purchase subject to correct installation. Use and maintenance to be in accordance with manufacturer's specifications and recommendations. (This excludes wearing parts).

Inspection and maintenance

Inspection and certification required every 12 months by competent person in accordance with manufacturer's specifications and requirements of Australian Standards AS/ NZS 1891 and AS/NZS 5532. (Refer installation manual)

Important note

Failure to supply and/or install proprietary product in accordance with above standards and codes, specifications and instructions voids complete system certification and/or warranty

WARRANTY INFORMATION

Warranty period on this system:
10 years from date of purchase

Should you have a warranty claim as a result of a defect the following procedure must be followed:

Identify the following information:

- The product/system name and code number.
- The date of purchase/installation.
- Installation company details.
- The installation identification number.
- The name of the company using this system.
- A description of the defect/warranty claim.
- The periodic system maintenance report.

Forward the above information to sales@kattsafe.com.au or contact technical helpline, 1300 301 755.

Terms and conditions

All warranty claims must be made in writing within 14 days of the appearance of the defect.

Incorrect installation or work done by a non accredited Kattsafe system installer will void all warranty rights.

Systems that have been installed using non proprietary equipment will void all warranties.

System roof/cladding and concrete penetration seals are not covered in this warranty.

Systems/components that have not been maintained in accordance with manufacturer's/legislative requirements will void warranty.

Systems used by incompetent persons or use with non compatible accessories ie. harness gear, lanyards, travellers, fall arrestors etc. will void warranty.

Systems/components used for purposes other than their intended use will void warranty.

General wear and tear is expected and will depend on the frequency of use and is not covered by warranty.



Operations manual
Rope access anchors



QMS Certification
ISO 9001:2015

Find all related products and resources on our website.
kattsafe.com.au

Kattsafe

Height access
and fall protection

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