

INSTALLATION MANUAL

TENSION ANCHOR

AP110



The Kattsafe tension anchor is a proprietary concrete anchor system used in overhead or re-belay situations.



Product brochure
Tension anchor



Installation manual
Tension anchor



Operation manual
Tension anchor

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

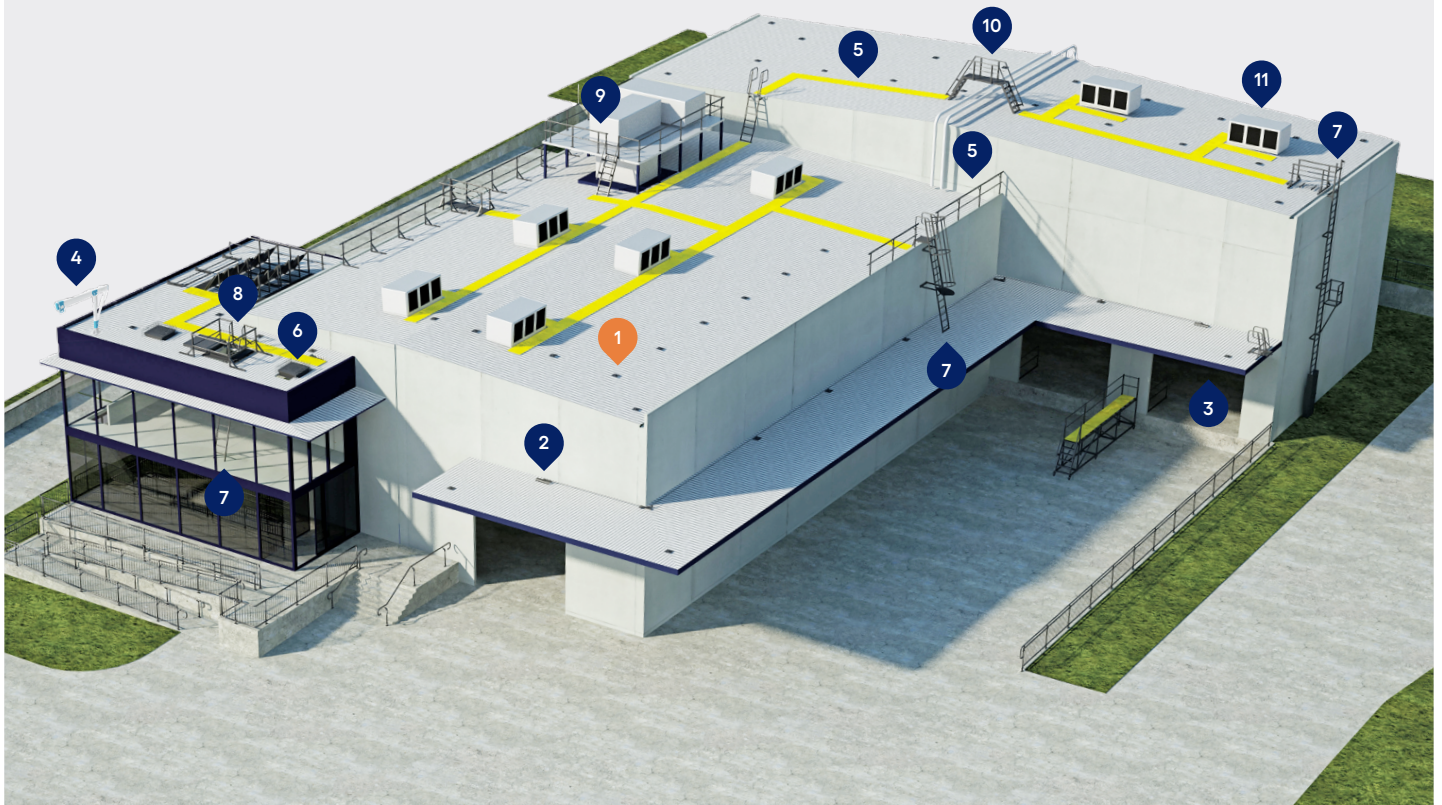
Commercial building height access and fall protection requirements

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 Roof access hatches
- 9 Platforms and stairs
- 10 Step ladders
- 11 HVAC platforms



TENSION ANCHOR

The tension anchor is an overhead or re-belay anchor system for safe work at height.



Load rating

Load rated to 15kN single person use rating, and a 50kN break test peak load rating with rescue after fall capabilities.



Overload indicator

The anchorage device's unique overload indicator provides ease of inspection showing if a fall has taken place.



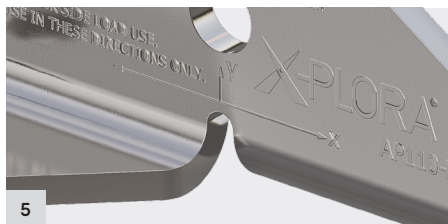
Label slot

Making it easier for inspection and maintenance crew to recertify, and enabling a clear and easy view of the label.



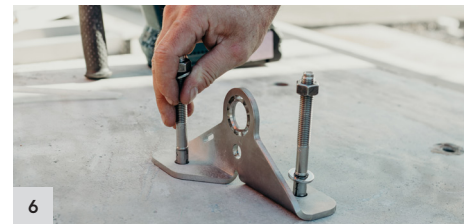
Pull testing

The unique load aperture in the device is designed to allow for single point pull testing.



No weld construction

The device is a single 316 SS plate with a no weld design ensuring there are no performance weak points.



Simple installation

Super quick and easy installation as fixture to the surface only needs 2 x M12 wedge anchor fixings.

TENSION ANCHOR CONFIGURATIONS

AP110E Tension anchor - epoxy adhesive fix



AP110S Tension anchor - seismic wedge fix



TOOLS AND EQUIPMENT

Impact drill and masonry drill bit

- 12mm for M12 wedge anchor
- 14mm for epoxy M12 stud anchor



Hole cleaning blower



Hole cleaning brushes



Epoxy adhesive applicator



Epoxy adhesive

- VF22 PRO+ Fast cure high strength or equivalent



Only high strength structural epoxy must be used.



Load tester



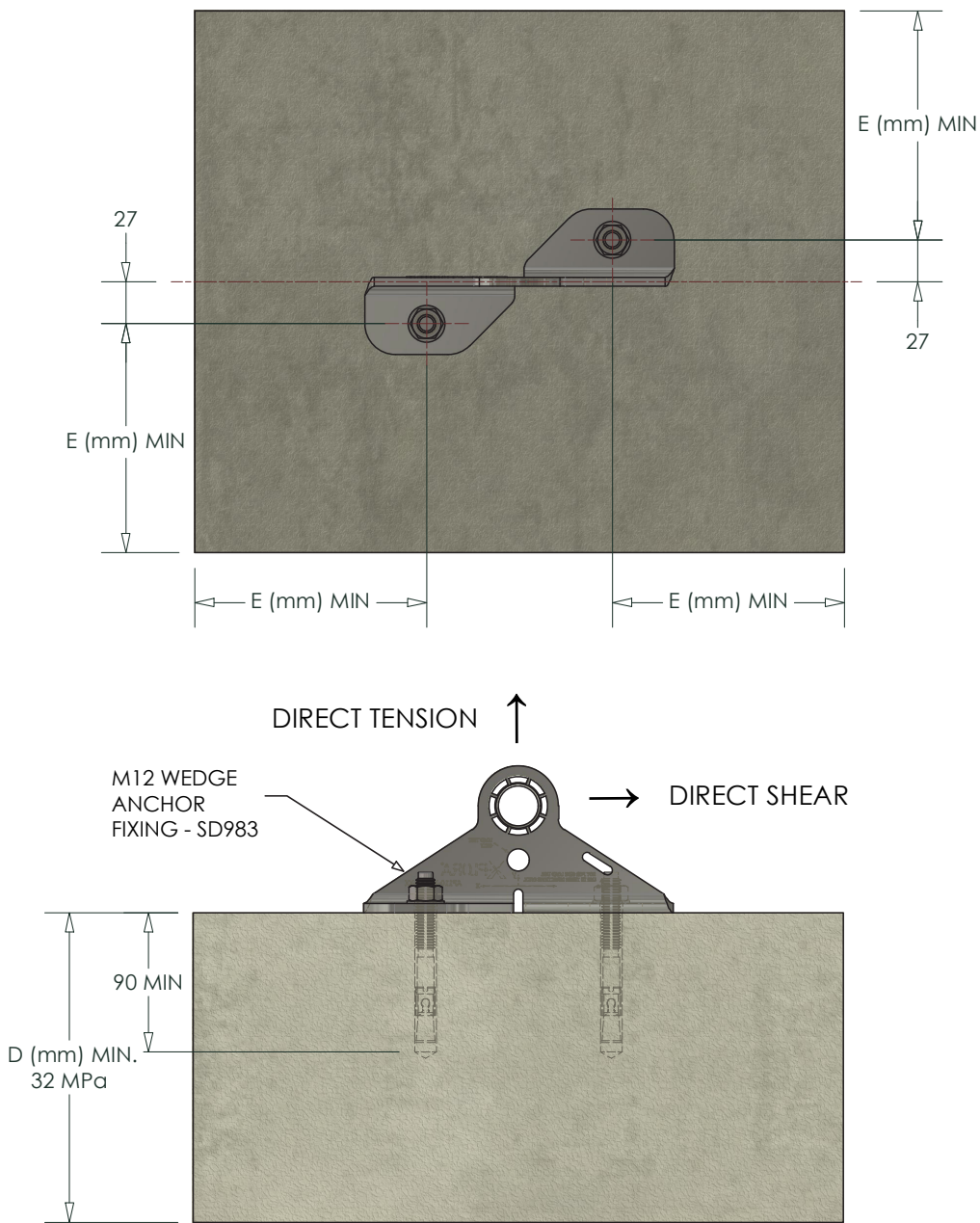
Tape measure



Roof marking pen

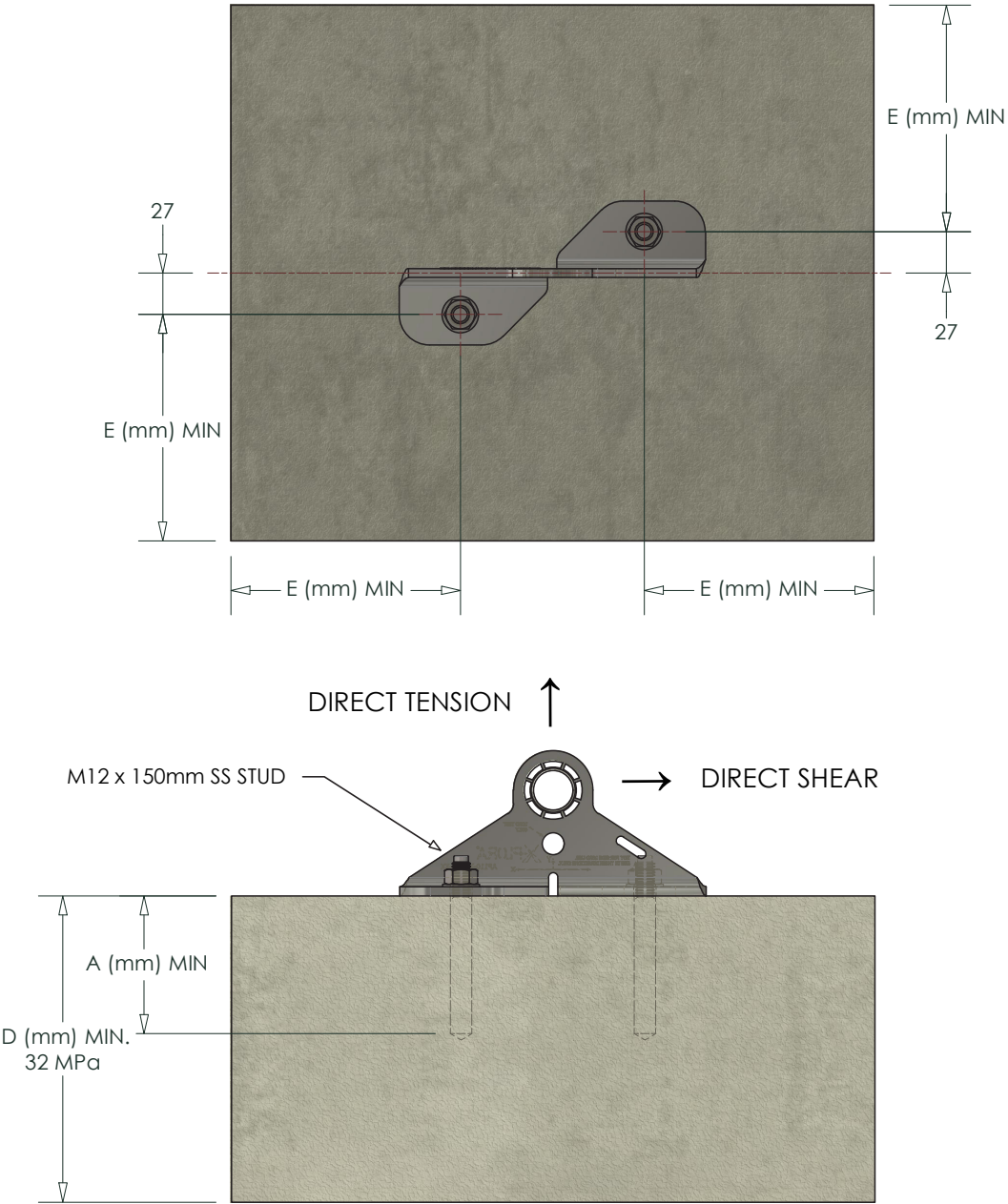


SEISMIC WEDGE FIXING REQUIREMENTS



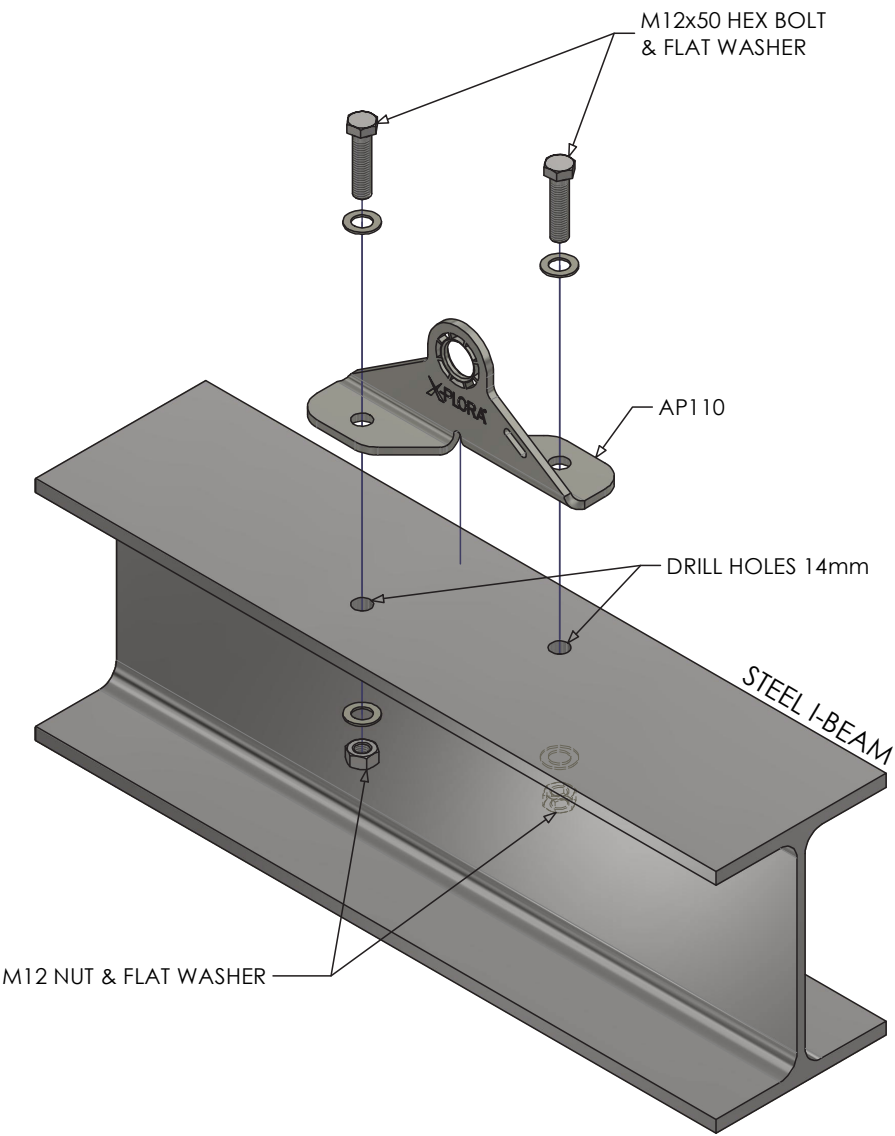
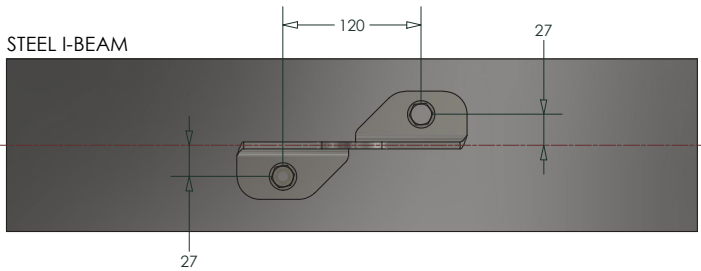
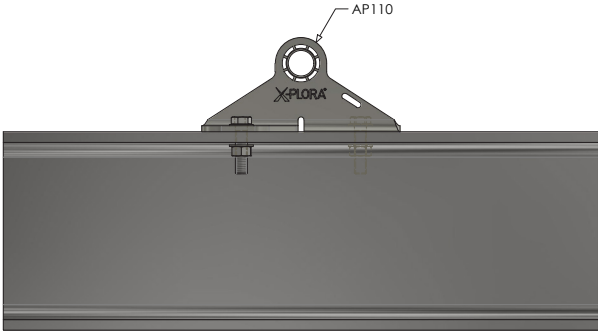
Anchor type	Load (kN)	Load direction	D : Slab thickness (mm)	E : Edge distance (mm)
SD983	12	Tension	150	100
SD983	15	Tension	150	100
SD983	12	Shear	200	180
SD983	15	Shear	200	230

EPOXY ADHESIVE REQUIREMENTS



Anchor type	Load (kN)	Load direction	A : Anchor depth (mm)	D : Slab thickness (mm)	E : Edge distance (mm)
SD932.150	12	Tension	100	150	100
SD932.150	15	Tension	100	150	100
SD932.150	12	Shear	120	200	180
SD932.150	15	Shear	120	200	230

STEEL INSTALLATION REQUIREMENTS



INSTALLATION REQUIREMENTS

Must be read prior to installation

1. This system must only be installed by competent persons trained in the selection, use and maintenance of fall arrest and rope access systems.
2. Installers must hold a current Kattsafe approved installer certificate, possess valid industry licenses, be appropriately trained, and comply with all relevant WHS legislation prior to installation of this product.
3. Persons installing this system are required to have a comprehensive knowledge of the Australian Standards, codes of practice and industry guidelines that relate to the selection, use and maintenance of fall arrest and rope access systems and equipment.
4. Integrity and suitability of the structure to which this system is attached must be approved by a structural engineer unless it is clear to a competent person as to the structure suitability.
5. Read installation and operating instructions carefully before commencing any work. Consent to deviate from the installation guide must be obtained in writing from the manufacturer.
6. Glued in anchors using an epoxy adhesive are recommended to use VF22 Pro+ (SD944F) or equivalent. Correct hole size, depth, cleanliness preparation and insertion of epoxy adhesive as per manufacturer's recommendations is critical. Only high strength structural epoxies must be used.
7. Conduct an initial work/risk assessment, and take all reasonable precautions to eliminate or control potential hazards and risks during the installation of this product.
8. Complete all necessary WHS documentation, including a Job Safety Analysis and Work Method Statement and obtain consent from responsible person in the workplace prior to commencement of work.
9. Appropriate temporary access and safety equipment must be used during installation, such as platform ladders or scaffolding and fall protection anchorage points.
10. Do not modify or remove any element of the support structure without prior authorisation by a qualified engineer.
11. Decorative coatings and coverings must be removed to ensure correct evaluation of structure prior to attachment of system.
12. Any re-routing of electrical and/or other services must be carried out by qualified or authorised personnel.
13. In case of emergency, fall arrest and rope access systems must be installed by a minimum of two persons.
14. Do not tamper with, modify or remove any part of this system unless authorised by the manufacturer.
15. Appropriate labels or markings must be attached to each anchor and include the following:
 - System for personnel use only
 - Service entry date
 - Next examination/service due date
 - Harness gear requirements and system compatibility
 - Maximum designed load ratings
 - Installer/Certifier contact details
16. Documentation confirming correct use and maintenance of the system and equipment must be provided to the workplace manager on completion of installation. (See operation manual)
17. Load testing prior to use must be completed.



Kattsafe instructions and recommendations, drawings and diagrams, and all other documentation are copyright, errors and omissions excepted, and must be carefully read and implemented. Any assistance or guidance given is without prejudice, and Kattsafe cannot be held responsible for any inaccuracy or misinterpretation whatever. Failure to follow site installation requirements and warnings, may result in serious injury or death.

Kattsafe accepts no direct or indirect responsibility and/or consequential liability whatever, for any products and systems incorrectly installed or certified. Kattsafe cannot warrant the integrity or suitability of the structure to which the products may be attached. Prior assessment must be made by a qualified structural engineer, unless the structure is authorised or approved by a competent person.

SYSTEM LIMITATIONS

Must be read prior to installation

1. Structural requirements for attachment of concrete mount anchors: minimum 25MPa concrete, 150mm thick with reinforcing.



Confirmation of concrete structural suitability must be obtained from a structural engineer. Fixing anchors to brick, hollow blockwork or stone structure is not recommended.

2. The anchor is suitable for single (1) person use and rescue in the case of a fall incident. (15kN)
3. Only to be used by competent persons with proof of training by a Registered Training Organisation (RTO) in the use fall protection and rope access systems.
4. Fall arrest and rope access equipment is susceptible to deterioration when exposed to chemicals or hazardous environments and must be approved by the manufacturer for use in these applications.
5. This system, under normal use and environment, has a life expectancy of up to 10 years. A manufacturer's assessment and certification to confirm suitability for an additional 5 years use, or more is recommended. This will depend on location, usage and scheduled maintenance as per manufacturer and legislative requirements.
6. Epoxy adhesive and seismic wedge fixed anchors require proof load testing prior to commissioning into service and then at least 12 monthly intervals thereafter. Depending on anchor rating. A 3 minute test load to 50% the ultimate design load must be performed. Anchors that have been cast into the concrete during construction of the slab structure do not require load testing.
7. Operators of this system must be connected via a lanyard with a personal energy absorber when used as a fall arrest system in accordance to Australian Standard AS/NZS 1891.1.
8. When installing this system as a rope access/abseil system, two separate anchors must be provided for the working rope line and the safety back up rope line.
9. Do not exceed maximum number of users/persons per system. See specific system data plate for user configuration.
10. Do not tamper with or make alterations to system components without manufacturer's consent.
11. This system is not to be used for tethering or lifting machinery or equipment.
12. The safety system must be re-certified by a competent height safety inspector as recommended (or as per statutory requirements):
 - Non corrosive/mild environment – 12 monthly.
 - Corrosive/harsh environment – 6 monthly (more frequent inspection may be required).
13. Operator must ensure pull testing has been completed within 12 months prior to use.
14. Refer to angles of use limitations on page 13.



Kattsafe recommends that persons using fall arrest 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 height safety inspector.

DESIGN & LAYOUT

Must be read prior to installation

1. The hierarchy of risk control must be followed at all times.



It is important to note that the lower the hierarchy of control, the greater the skill of the operator required and therefore is least preferred compared with a higher hierarchy requiring minimal operator skill and less risk of operator injury as a result of incompetence.

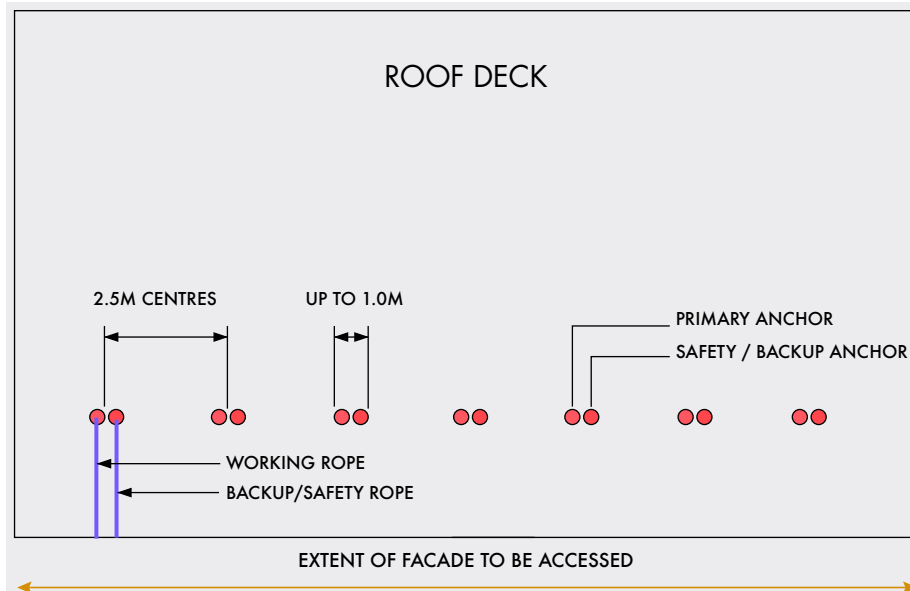
2. Professional guidance on the design and set out of this system should be obtained prior to installation.
3. Certain environments produce acidic atmospheric conditions which are detrimental to steel structures and concrete surfaces. Any acidic environment must be assessed and structural components certified by a competent person prior to installation of this system.
4. Australian Standard AS/NZS 5532 does require each sub-structure type to which a fall arrest anchor system is attached to be individually tested and certified for safe use by the manufacturer.
5. When designing or positioning fall arrest and rope access systems it is important to check the following:
 - Roof pitch over 15° will require constant user attachment.
 - Sub-structure type will determine best suited fixing method.
 - Number of persons required to work in the same area will determine preferred type of fall protection system provided.
 - Type of work to be done will determine best suited fixing type of fall protection system provided.
 - How frequent the area will need to be accessed will determine preferred type of fall protection system provided.
 - Safe access to the work zone will determine preferred type of access system to be used such as ladder or stairway system.
6. Where possible, anchorage systems should always be positioned above the operator to minimise unnecessary fall distance.
7. When connected to an anchorage system using a rope line lanyard, the anchorage must be placed a sufficient distance behind the operator to limit angle on lanyard to 20°. This is to avoid excessive tensile load on the anchor.
8. When positioning the anchor system it is important to ensure that there is no possibility of pendulum action should the operator accidentally fall as a result of incorrect anchor spacing between fall edge and spacing between anchorages.
9. When installing this system as a rope access/abseil system, separate anchors must be provided for the working rope line and the safety back up rope line.
10. Primary anchors must be positioned in the 'safe zone' a minimum of 2.5m from fall edge of the roof area ensuring operator safety whilst connecting to the system prior to moving into the danger zone area.
11. Anti pendulum or diversion anchors must be provided to allow rope line extension into extreme corners preventing pendulum action in the case of a fall.
12. Sufficient fall clearance is essential in order to ensure correct operation of the system in a fall situation. Should fall distance be less than 5.0m, anchorage system must be positioned at least 2.0m or more from the fall edge to allow operator to work effectively in full restraint.



This document does not in any way replace the full Australian Standard document AS/NZS 1891 and AS/NZS 4488 which must be read and properly and understood prior to installation of this system.

Anchor layout for rope access use

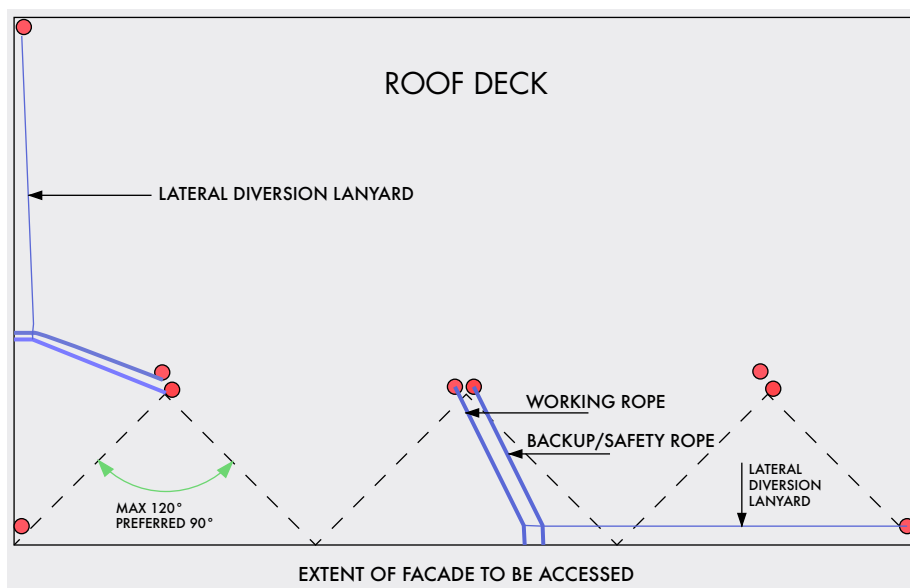
Option 1



- This layout is used where anchors are positioned closer than 4.0m to the edge.
- Anchors positioned within 3.0m of the roof edge will require fall protection to be provided to allow the operator to safely connect rope lines and hardware.
- This layout will allow access to the complete facade area for both window cleaning and maintenance.
- Anchor pairs spaced greater than 2.5m may restrict access to specific locations especially if maintenance such as caulking is required.

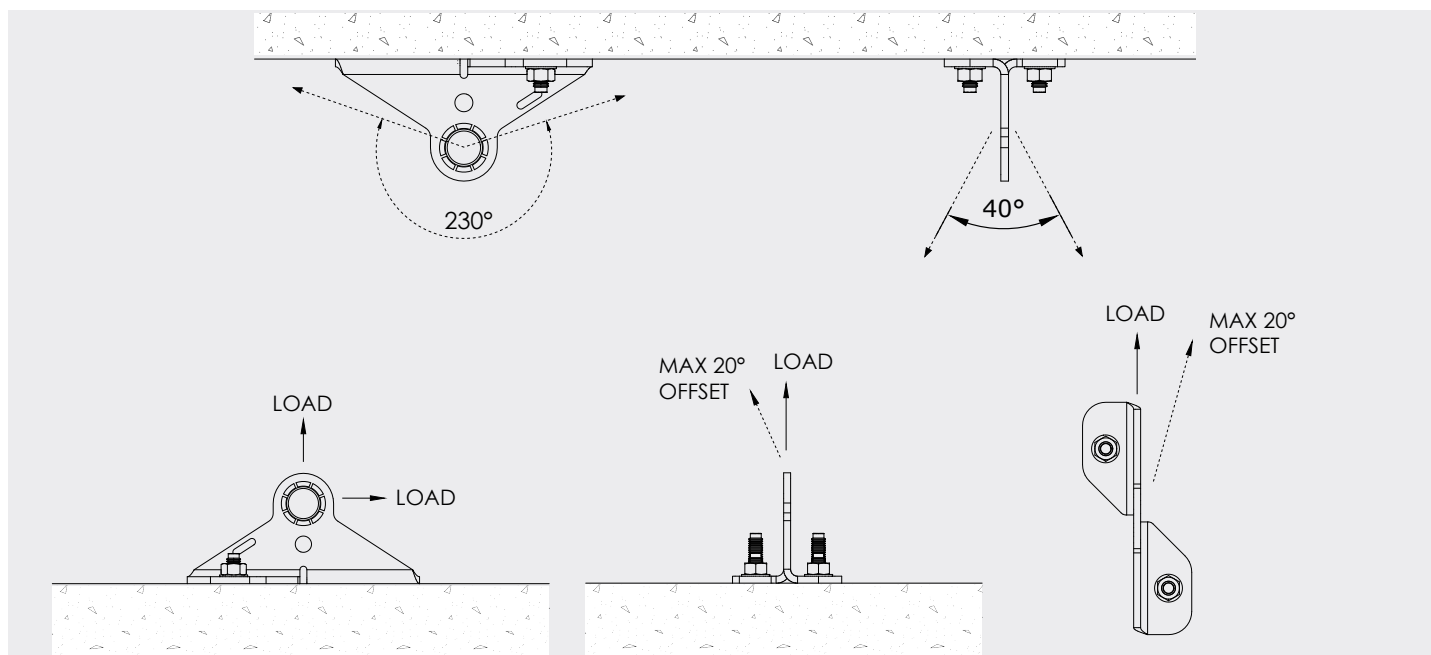
Anchor layout for rope access use

Option 2

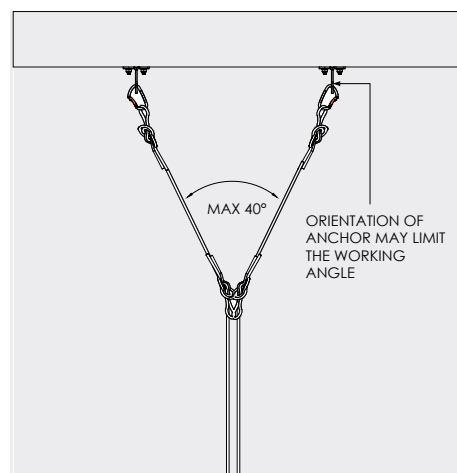


Anchor layouts and angles of use limitations

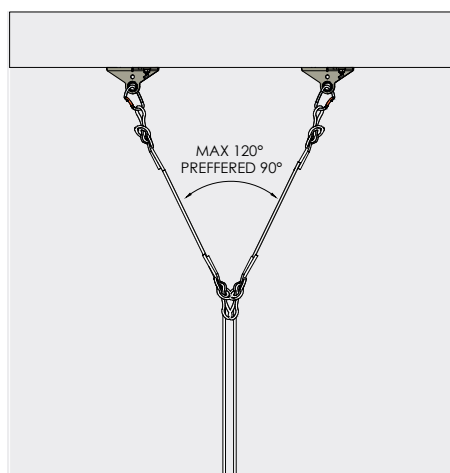
- Orientation of the anchor plate must be considered prior to installation, to avoid excessive side loads on the anchor.
- Refer to the diagrams, maximum load direction offset angle is 20°
- When AP110 tension anchor is used for rope access applications, particular care must be taken in set-out of anchors, according to rope access use as excess loading in the wrong direction could cause the anchor plate to deform.



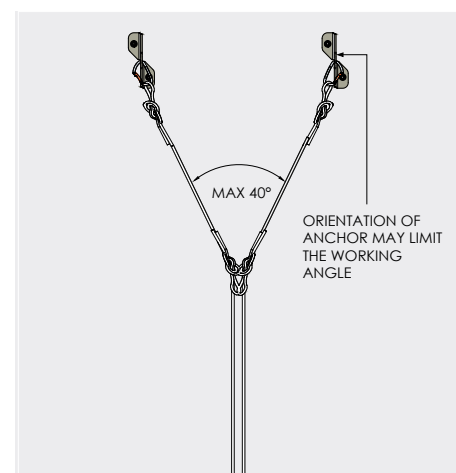
Scenario 1



Scenario 2



Scenario 3



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 which 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.

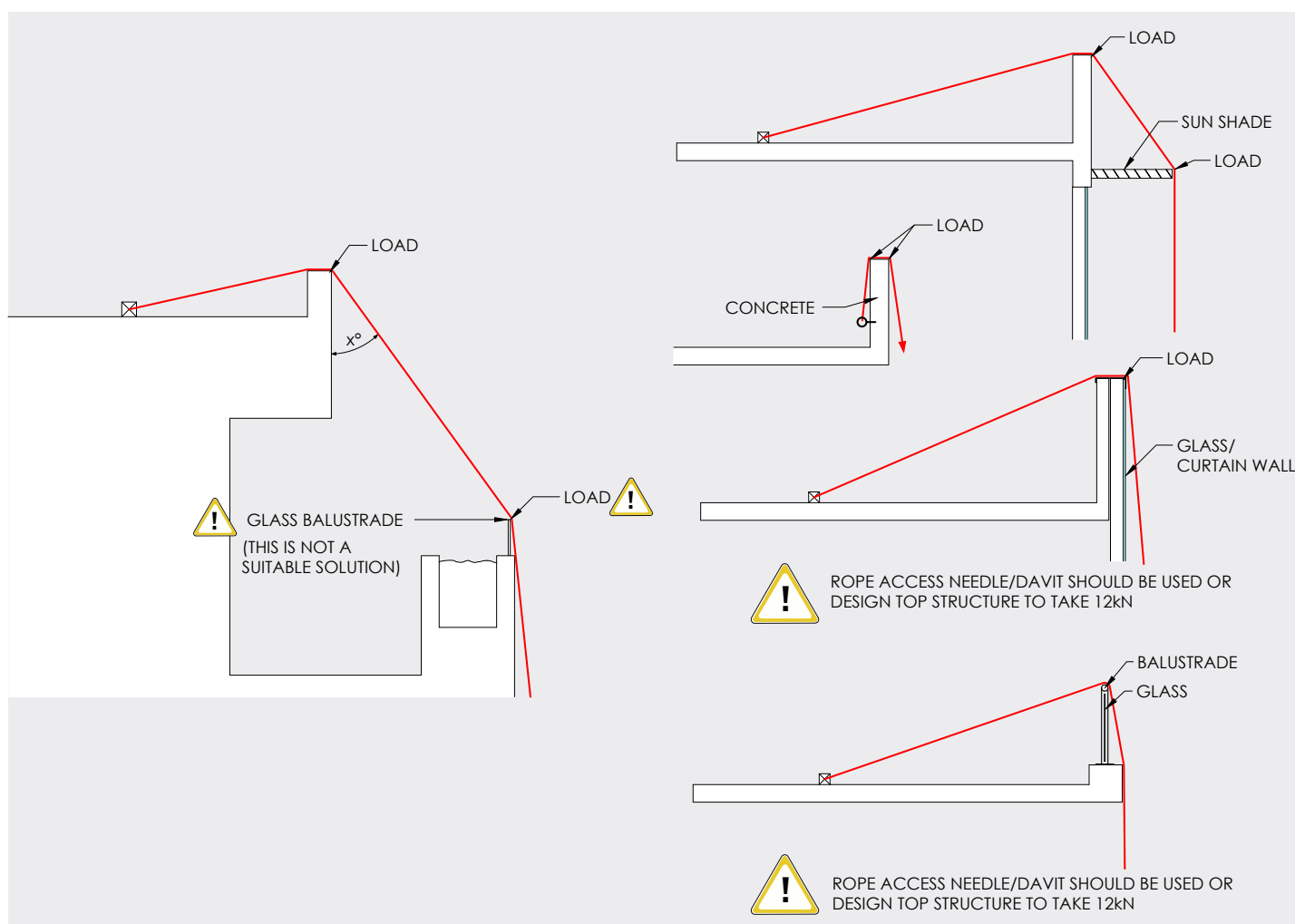
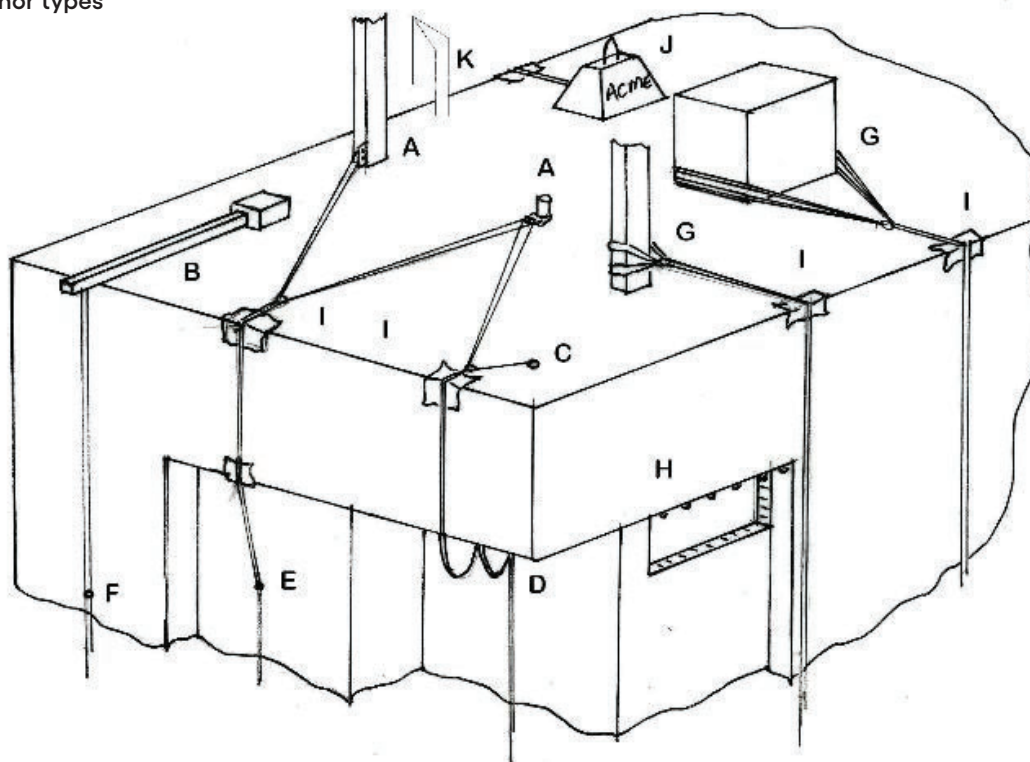


Diagram not to scale. For illustration purposes only.

Rope access system design limitations

1. Design and installation of rope access systems must be in accordance with the requirements of AS/NZS4488.
2. Primary rope access anchors require a minimum ultimate design load of 12kN (single person use).
3. Appropriate labels or markings must be clearly visible on each anchor and include the following:
 - Ultimate design load
 - Limitations of the system
 - Number of persons allowed per anchor
 - Next service date
 - Installer / certifier info
4. Kattsafe recommends that the design layout and installation of any rope access system is done by a fully trained and competent person with a level 3 rope access industry certificate.
5. All structural loadings/forces on parapets, awnings and sunshades or canopies to be calculated and authorised by a qualified engineer.
6. Any awning, sunshade or canopy less than 3.0m below top of parapet must be trafficable to allow operator to stand on whilst traversing past the canopy edge.
7. Any structural components required for rope access loads (12kN) will need to be designed and approved by a qualified engineer.
8. Any rope access anchorages placed within 3.0m of a fall edge, will require adequate fall protection to be provided for operator to access and attach to the rope access system safely.
9. Adequate protection for rope lines over sharp or fragile edges must be provided in accordance with current industry codes of practice and guidelines.
10. All products/systems to comply with relevant Australian Standards; WHS Regulations and Codes of Practice.

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

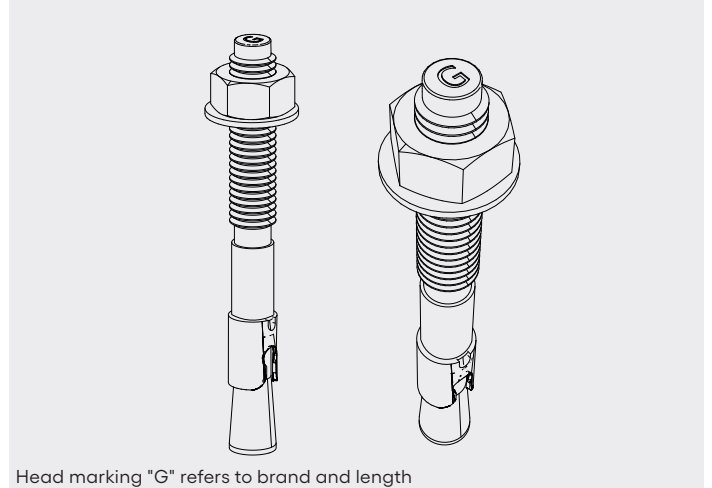
WEDGE FIXING INSTALLATION PROCEDURE

Step 1

Prior to installation, the condition of the structure must be checked for suitability. Correct positioning of the anchor is critical to avoid a potential pendulum fall set up.



Do not proceed with installation of this system if any of the checking criteria does not meet the required standards. Seek advice from the manufacturer regarding other options.



Head marking "G" refers to brand and length

Step 2

- Measure and mark 90mm on the drill bit.
- Drill a hole 12mm x 90mm (min) deep. Ensure the distance away from the edge is according to table on page 6.



Step 3

Blow out dust with a minimum of 4 initial pumps of the blower, to ensure all dust is removed.



Eye protection must be worn as dust can cause injury to eyes.



Step 4

Check the depth of the hole with the marked out drill bit. Ensure the hole is min 90mm deep.



Step 5

Position the nut 10 - 15mm down and insert M12 fixing and hammer into the hole until it has seated against the anchor plate.



Step 6

- Tighten up the nut with a torque wrench
- Min torque setting is 50Nm.
- Max thread protrusion (once tightened from plate) is 43mm



Step 7

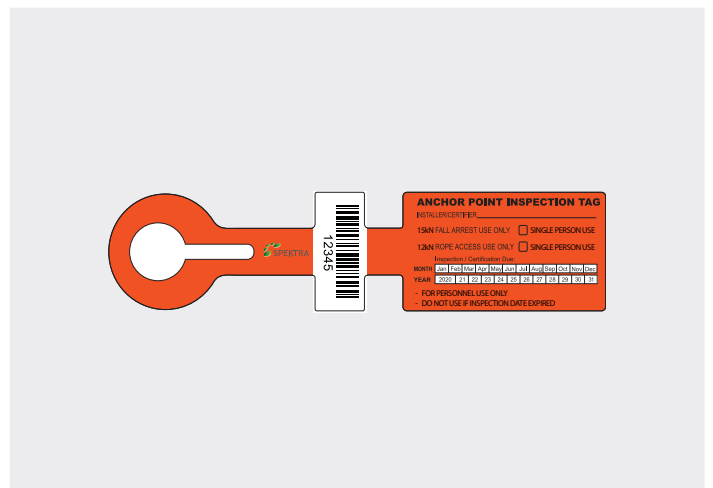
- The AP110 tension anchor must be pull tested to 7.5kN for a minimum of 3 minutes with no evidence of anchor movement.
- After the first load test, bolts will need to be re-tightened to 50Nm.



Step 8

Each anchor installed must be clearly labelled with the following information

- Anchor design load
- Number of persons per anchor
- Service entry date
- Next due service date
- Limitations of use
- Installer / certifier information



CHEMICAL FIXING INSTALLATION PROCEDURE

Step 1

Prior to installation, the condition of the structure must be checked for suitability. Correct positioning of the anchor is critical to avoid a potential pendulum fall set up.



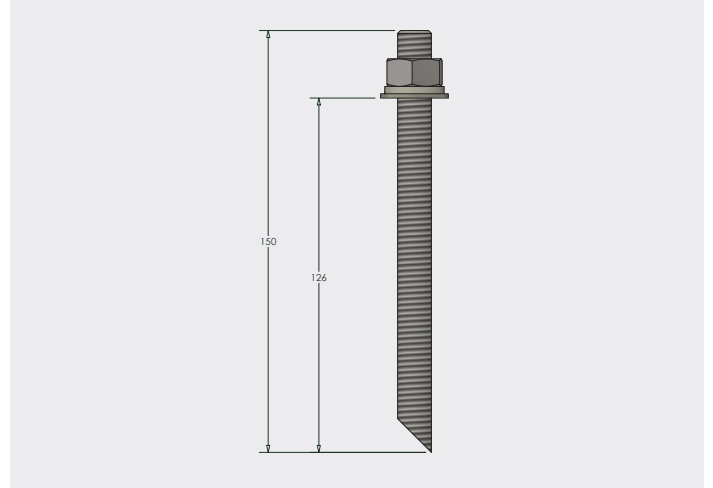
Do not proceed with installation of this system if any of the checking criteria does not meet the required standards. Seek advice from the manufacturer regarding other options.



Recommended epoxy adhesive is VF22PRO+ (SD944F) or equivalent. High strength structural epoxy must be used. It is very important to follow manufacturer instructions regarding the installation of epoxy adhesive and fixings.



Pay attention to hole preparation and gel and cure times.



Step 2

- Drill a hole 14mm x 120mm (min) deep.
- Ensure the distance away from the edge is according to table on page 7.



Step 3

- A minimum of 4 initial pumps of the blower is required, then brush out the hole using a wire brush, retracting the brush at least 4 times to remove dust.
- This process must be repeated 3 times to ensure all dust is removed.



Eye protection must be worn as dust can cause injury to eyes.



Step 4

- Ensure chemical is well mixed (discard approx 3 squeezes) prior to inserting into hole especially, if using new cartridge.
- Insert the chemical starting at the base of the hole and apply approximately 4 injections of chemical whilst retracting the nozzle towards the top of the hole, ensuring no air voids are created.



Pay attention to hole preparation.



Step 5

- Select the M12 anchor stud and mark with the required embedment depth.
- Insert the M12 stud into the hole using a back and forth twisting motion to ensure complete cover, until it reaches the bottom of the hole.
- Excess resin will be expelled from the hole evenly around the stud and there will be no gaps between the anchor element and the wall of the drilled hole.



Step 6



Pay attention to gel and cure times. Refer to the table on the cartridge, or manufacturers details.

- Clean excess epoxy around the mouth of the hole. Do not disturb the anchor until minimum cure time has elapsed.
- Tighten up the nut with a torque wrench. Min torque setting is 40Nm.



Step 7

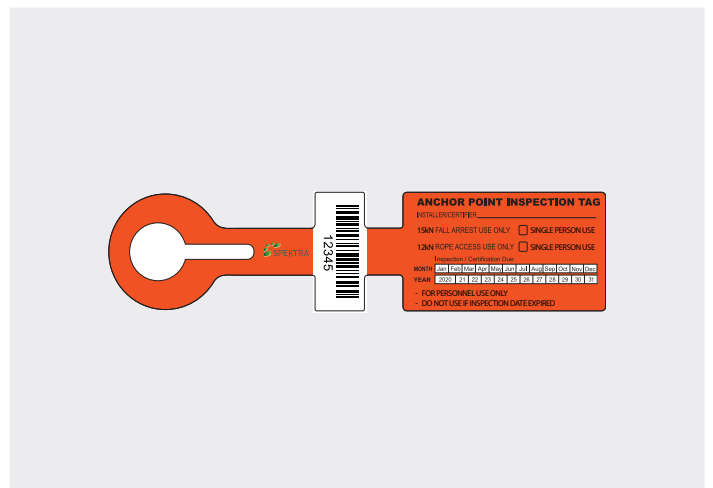
- The AP110 tension anchor must be pull tested to 7.5kN for a minimum of 3 minutes with no evidence of anchor movement.
- After the first load test, bolts will need to be re-tightened to 50Nm.




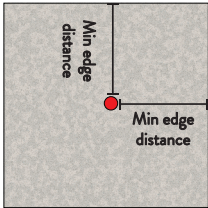
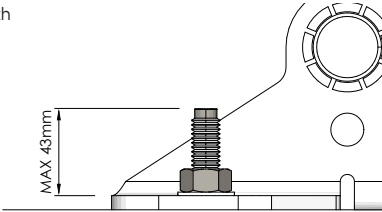
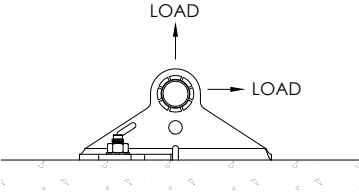
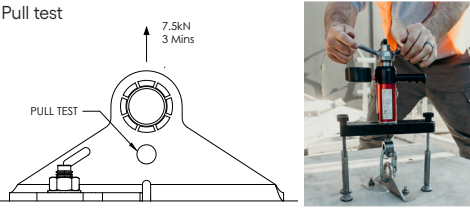
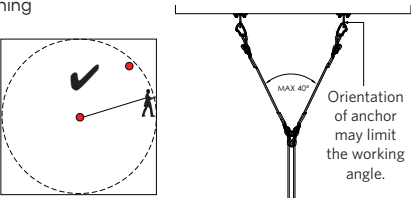

Step 8

Each anchor installed must be clearly labelled with the following information

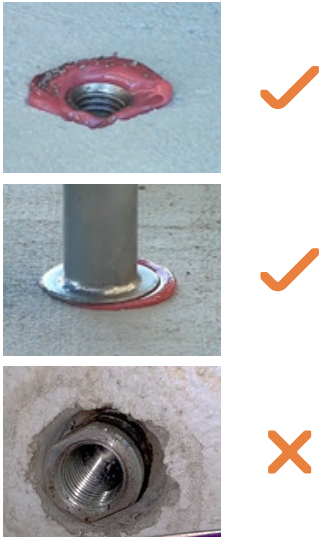
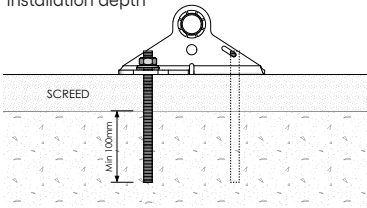
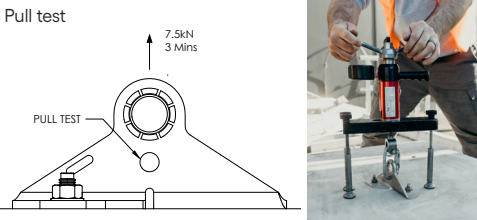
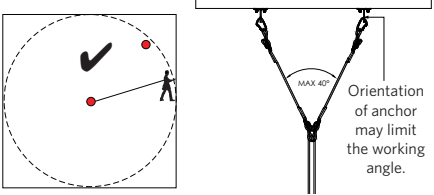

- Anchor design load
- Number of persons per anchor
- Service entry date
- Next due service date
- Limitations of use
- Installer / certifier information



SEISMIC WEDGE FIXING INSTALLATION CRITERIA

Component	Installation criteria
Concrete <div>  </div>	<div>Structure to be sound, not flaky or sandy.</div> <div>Slab thickness to be 150mm minimum.</div> <div>Structure to be sound, not flaky or sandy.</div>
Edge distance <div>  </div>	Refer to table on page 6.
Fixing depth <div>  </div>	Max thread protrusion from plate is 43mm.
Eyebolt <div>  </div>	Anchor facing fall / load direction.
Pull test <div>  </div>	<div>Glued in or wedge type anchors must endure a live load test to 50% of ultimate design load for 3 minutes.</div> <div>7.5kN load test.</div>
Positioning <div>  </div>	Correct anchor spacing and set-out to ensure no pendulum swing or excessive side load on the anchor.
Data label <div>  </div>	<div>Anchor data label attached at each anchor.</div> <div>All relevant data filled out including next maintenance date.</div>

EPOXY ADHESIVE INSTALLATION CRITERIA

Component	Installation criteria
<p>Epoxy</p> 	<p>Is there sufficient chemical adhesive?</p> <p>There must be evidence of chemical epoxy near the surface for it to be safe for use.</p> <p>Check correct epoxy adhesive penetration. Epoxy must be visible near the surface of the penetration to ensure correct effectiveness.</p> <p>Australian Standards require glued-in chemical fixed anchors to be load tested to 50% of the ultimate design load and held for 3 minutes. If there is any doubt as to the strength of the epoxy or structure the anchor point shall be pull tested to the full design load (15kN) and held for 3 minutes or get approval from a structural engineer before use.</p>
<p>Anchor installation depth</p> 	<p>Any anchor positioned on pavers/screed or similar, must have evidence confirming the thread has full 100mm embedment into concrete. If unsure, anchor must not be used until verified. Extended stud may be required.</p> <p>Evidence of hole depth must be recorded (take photo) for inclusion in handover manual.</p>
<p>Pull test</p> 	<p>Glued in or wedge type anchors must endure a live load test to 50% of ultimate design load for 3 minutes.</p> <p>7.5kN load test.</p>
<p>Positioning</p> 	<p>Correct anchor spacing and set-out to ensure no pendulum swing or excessive side load on the anchor.</p>
<p>Data label</p> 	<p>Anchor data label attached at each anchor.</p> <p>All relevant data filled out including next maintenance date.</p>

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. Glued in chemical fixed anchors will require load testing to 50% of the ultimate design load and held for 3 minutes without any movement of anchor. Removable eyebolts must be checked to ensure thread integrity as well as correct penetration depth into ferrule (20mm or a minimum of 10 full turns.)
3. Concrete structure must be sound and any signs of break down must be assessed by a structural engineer or competent person as to suitability.
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.



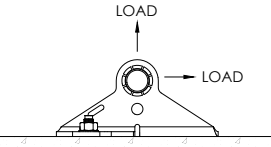
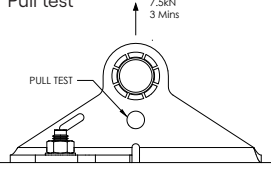

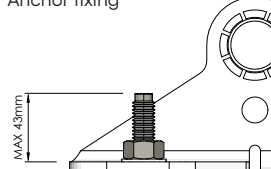
MAINTENANCE CHECKLIST

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
Concrete 	Concrete structure to be visibly sound.			
	No evidence of cracks or flaky / sandy surface.			
Overload indicator 	Check overload indicator.			
	No evidence of anchor deterioration or damage.			
Tension and load 	Anchor to be correctly tensioned : 50Nm.			
	Facing the correct load / direction.			
Pull test 	Glued in or wedge type anchors must endure a live load test to 50% of ultimate design load for 3 minutes.			
	7.5kN load test.			
Data label 	Anchor data label attached at each anchor.			
	All relevant data filled out including next maintenance date.			
Anchor fixing 	Check correct anchor fixing depth.			
	Max thread protrusion from plate is 43mm.			

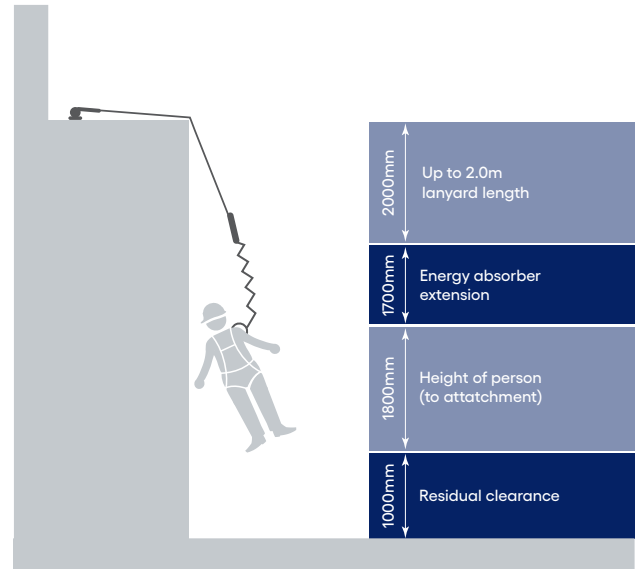
TECHNICAL INFORMATION

Fall clearance

There must be sufficient clearance below the user to arrest a fall before the user strikes the ground or another lower level hazard. The clearance required is dependent on the following factors:

- Elevation of anchorage
- Anchorage deflection
- Lanyard length
- Lanyard elongation on deceleration pull out (personal energy absorber)
- Operator height
- Fall distance residual clearance

See AS/NZS 1891.4:2009 Section 7 for a detailed explanation.



System requirements

The worker must wear a full body harness when connected to any fall arrest system including a personal energy absorber compliant with AS/NZS 1891.2:2001 and AS/NZS 1891.4:2009 limiting the force on the anchor and operator to a maximum of 6kN.

Harness connectors must support at least 15kN. Non-compatible connectors may unintentionally disengage (roll-out). Carabiners supplied with proprietary systems must not be removed or substituted with any other component.

Inspection and Maintenance

Inspection and recertification of fall arrest systems and equipment is required at least every 12 months by competent person in accordance with manufacturer's specifications and requirements of Australian Standard AS/NZS1891.4:2009 Section (9).

Important note

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

TECHNICAL SPECIFICATION

Tension anchor

AP110

The tension anchor is used in overhead applications or where direct tension is required. System design, supply, layout, installation and certification by a Kattsafe approved installer, as per the manufacturer's instructions and current standards.

Materials

316 stainless steel

Dimensions

- 200 (L) x 85 (W) x 95 (H)
- See diagrams on pages 5-7

Weight

0.7kg

Fixings (refer to installation manual)

- 2 x stainless steel M12 x 125mm seismic rated wedge anchor or
- 2 stainless steel M12 x 150mm stud to be used with epoxy adhesive

Rating

- Single person use installed rating : 15kN
- Break test peak load rating : 50kN
- Rescue can be performed off the same anchor if situation permits

Compliance

The tension anchor is designed and manufactured in accordance with requirements of Australian & New Zealand Standards AS/NZS 1891.4:2009, AS/NZS ISO 22846 and AS/NZS 5532:2013.

Testing

- Testing and performance based on AS/NZS1891.4:2009 & AS/NZS5532.2013
- Dynamic load test : 15kN
- Static load test : 15kN
- Ultimate Static Load Test : 60kN+

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 and New Zealand Standards AS/NZS 1891 and AS/NZS 5532.

Important note

- Minimum thickness of concrete : 200mm. Thickness less than 200mm requires compliance by having structure certified and the anchor proof load tested as per AS/NZS 1891.4:2009.
- Device is for personnel use only.

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.



Product brochure
Tension anchor



Installation manual
Tension anchor



Operations manual
Concrete mount anchor



QMS Certification
ISO 9001:2015

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

Kattsafe

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