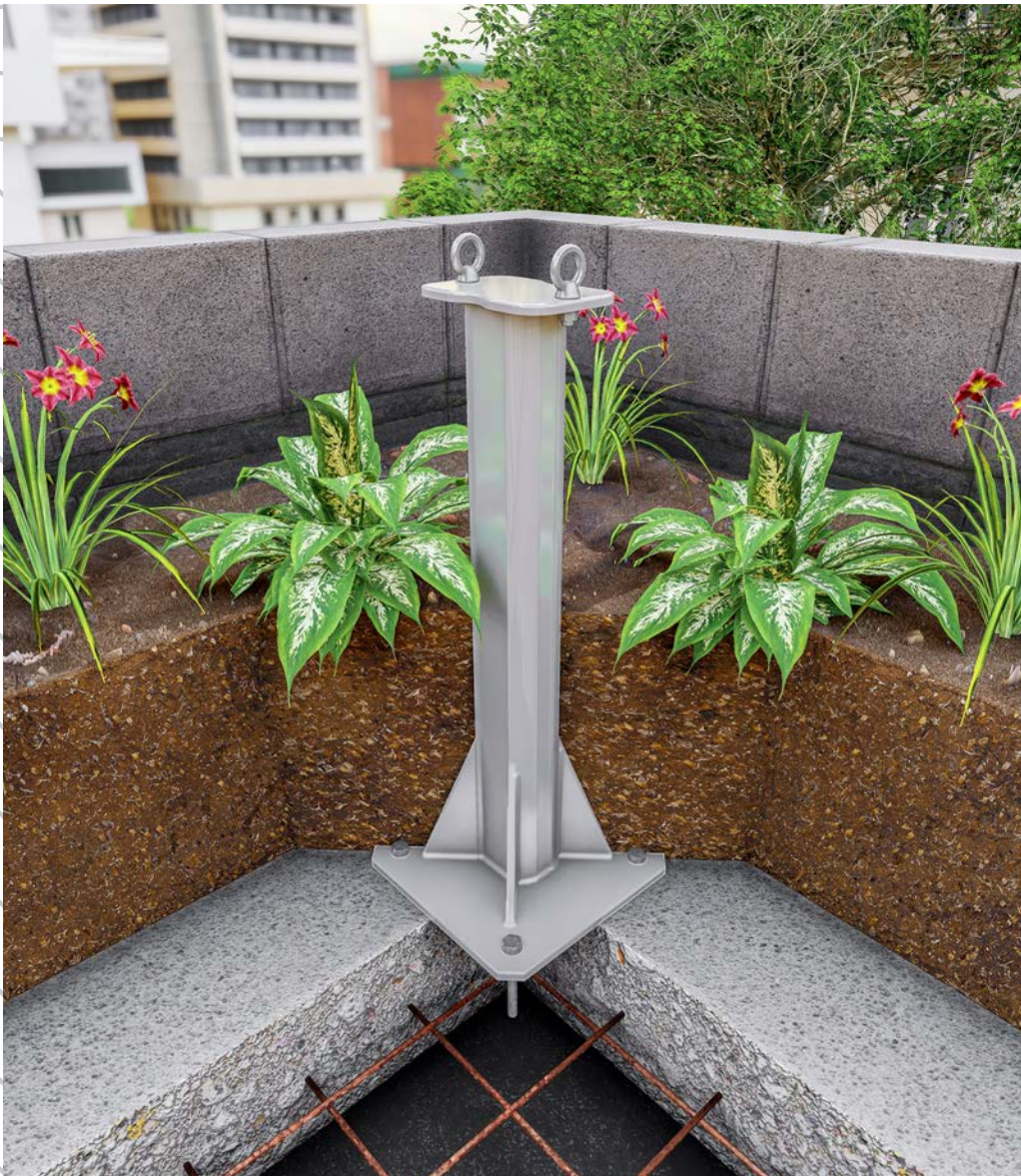
Kattsafe Height access and fall protection

INSTALLATION MANUAL

STRUCTURAL MOUNT MEGA POST

AP150



Structural mount mega post for raised fall arrest or rope access systems above garden beds or other areas.

Product brochure
Structural mount mega post

Installation manual
Structural mount mega post

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

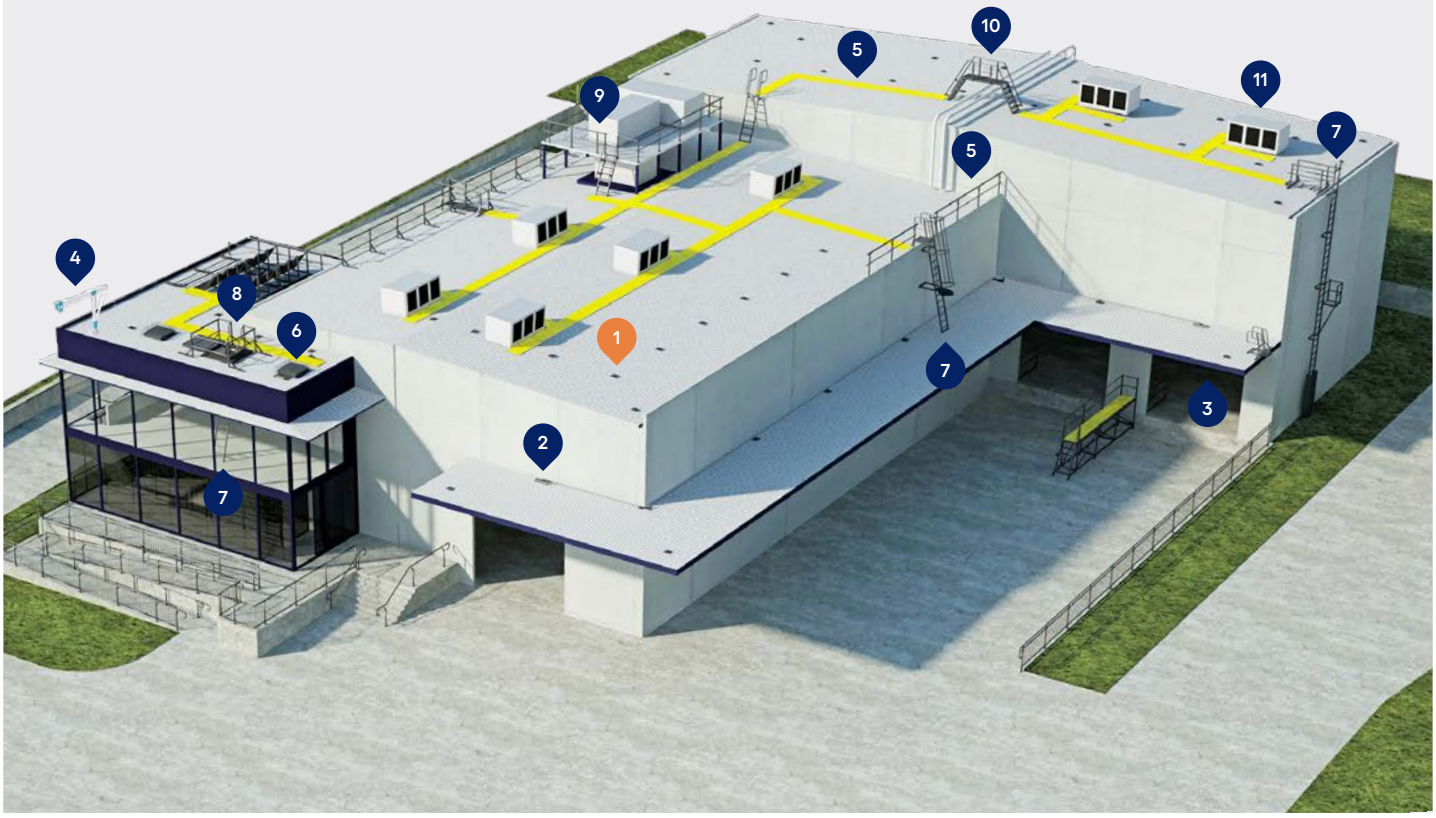
Commercial building height access and fall protection requirements

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



STRUCTURAL MOUNT MEGA POST

Structural mount mega posts are for use in situations where a fall arrest or rope access system needs to be raised.

Main attachment plate

Two 18mm holes for multiple attachment options. The welded aluminium top plate ensures a watertight seal.

Adaptor plate

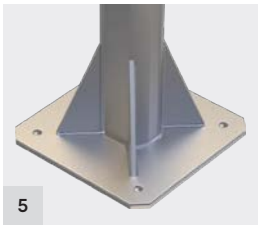
Stainless steel powder coated adaptor plate for easy attachment of Kattsafe fall arrest systems.

Mast super structure

Engineered in structural aluminium for superior strength in all directions.

Tested for rope access and fall arrest use

Tested to 18kN in all directions as per AS/NZS 5532:2013.



Base plate

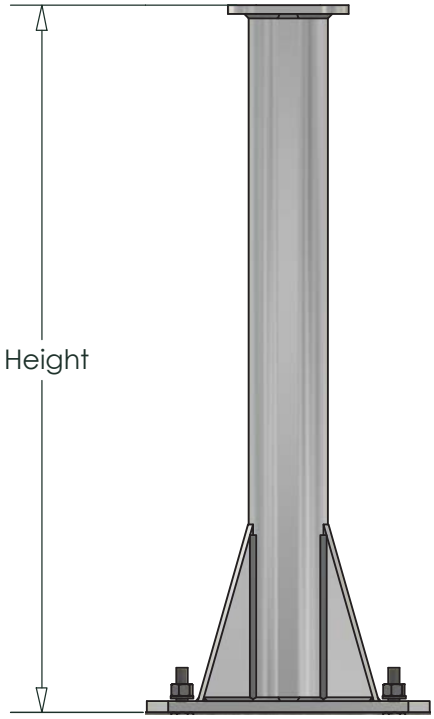
The base plate is constructed from 16mm thick aluminium, with 18mm fixing holes.

Height options

Mast length options up to 1000mm, with custom heights available.

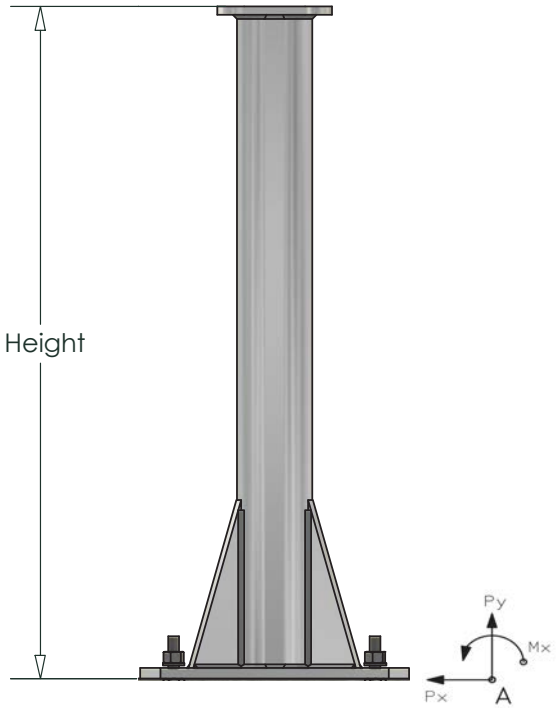
PRODUCT DIMENSIONS

Height options



Product code	Description	Height (mm)
AP150.0400	Structural mount mega post - 400mm	400
AP150.0600	Structural mount mega post - 600mm	600
AP150.0800	Structural mount mega post - 800mm	800
AP150.1000	Structural mount mega post - 1000mm	1000

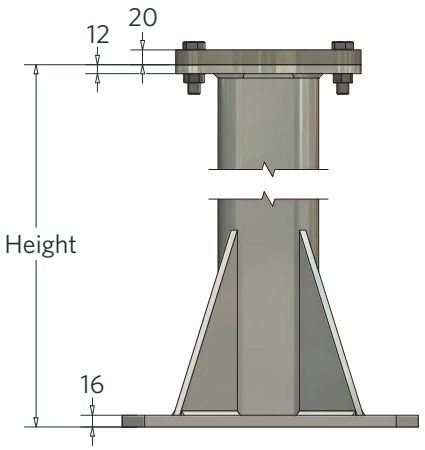
Reaction load schedule (1.2 G + Ultimate Q)



Overall height (mm)	Forces at A (kN)		Moment at A (Mx)
	Px	Py	
1000	18.00 Px	0.20 Py	19.80
800	18.00 Px	0.20 Py	16.20
600	18.00 Px	0.20 Py	12.60
400	18.00 Px	0.20 Py	9.00

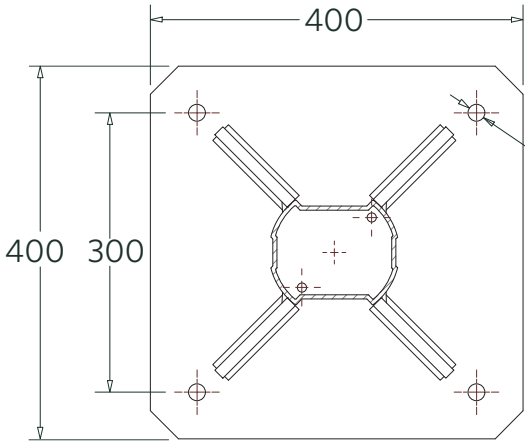
Post dimensions

- Base plate: 16mm thick
- Top plate: 12mm thick
- Adaptor plate: 20mm thick



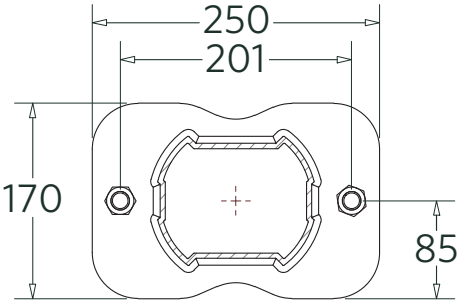
Base dimensions

- Base plate: 400 x 400mm
- Fixing hole spacing: 300 x 300mm centre to centre
- Fixing hole diameter: 18mm



Top plate dimensions

- Plate length: 250mm
- Plate width: 170mm
- Fixing hole spacing: 201mm centre to centre



MOUNTING OPTIONS

AP127.50 Concrete mount anchor kit

- Suited for rope access or fall arrest
- Rated to 15kN fall arrest / 18kN rope access
- No adaptor plate required

SL210M Static line intermediate kit

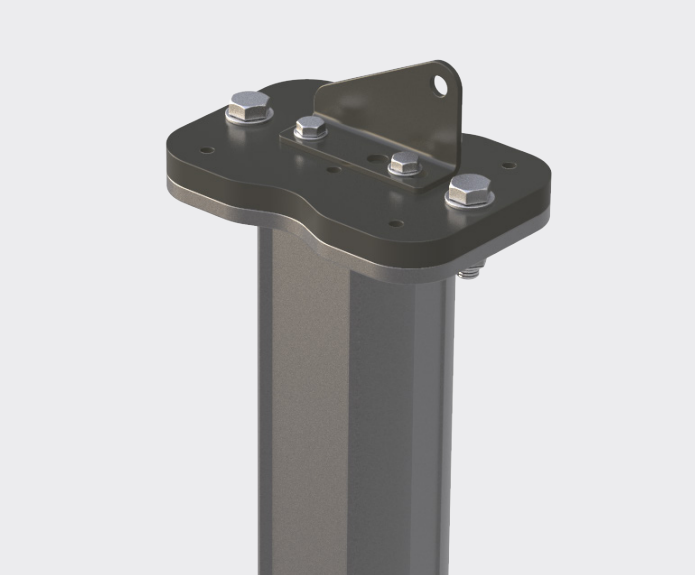
- Static line system intermediate kit
- Rated to 15kN fall arrest
- No adaptor plate required

SL224M Static line corner kit

- Static line system corner kit
- Rated to 18kN fall arrest
- Adaptor plate required

SL201M Static line end stanchion kit

- Static line system end stanchion
- Rated to 18kN fall arrest
- Adaptor plate required



RECOMMENDED FIXINGS

SD937.180 M16 Threaded stud kit

- Used for retrofit attachment of the structural mount mega post into concrete using epoxy adhesive anchoring system.
- Minimum 120mm embedment.

AP160 Cast-in cage bolt kit

- The cast-in cage bolt option allows the structural mount mega post fixings to be cast into the concrete providing a strong connection to the concrete structure.
- No periodic pull testing is required with this fixing method.

SD944E Extreme strength epoxy adhesive EF500R+

- Offers extremely high load-bearing capacity in both cracked and solid concrete.
- Used for anchoring M16 threaded stud anchors into concrete slab.

SD944D.E Extreme strength epoxy dispenser kit

Used for dispensing epoxy adhesive into stud anchor hole.

TOOLS & EQUIPMENT

Impact drill and masonry drill bit

Hole cleaning blower

Hole cleaning brushes

Chemical applicator SD944D.E recommended

Epoxy adhesive SD944E recommended (EF500R+)

Load tester

Spirit level

Spanner

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.
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. 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.
7. 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.
8. Appropriate temporary access and safety equipment must be used during installation, such as temporary guardrail or fall arrest system.
9. Do not modify or remove any element of the support structure without prior authorisation by a qualified engineer.
10. Decorative coatings and coverings must be removed to ensure correct evaluation of structure prior to attachment of system.
11. In case of emergency, fall arrest and rope access systems must be installed by a minimum of two persons.
12. Do not tamper with, modify or remove any part this system unless authorised by the manufacturer.
13. Appropriate labels or markings must be attached to each base 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
14. 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).
15. If the post is submerged in a garden bed, the post and the fixings must be painted with waterproof bitumen paint.

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. Concrete slab strengths to which the structural mount mega post is connected to be minimum of 32 MPa.
2. Concrete thickness minimum 200mm for epoxy adhesive anchors when retrofitting the structural mount mega post and 300mm for cast-in base fixings.
3. When using epoxy adhesive anchors, Kattsafe recommends the SD944E Extreme strength epoxy adhesive EF500R+ or equivalent to be used.
4. When positioning the structural mount mega post, a minimum edge distance of 250mm is required to the closest fixing or structure edge.
5. The structural mount mega post is designed for single person use when used for fall arrest and 2 persons when used for rope access attachment.
6. The structural mount mega post is not designed for glass replacement or other lifting requirements unless specifically engineered and manufactured to suit the specific requirements. This is to be clearly identified on the anchor tagging system.
7. The structural mount mega post is rated to 18kN plus rescue. (AS/NZS 1891 requirements).
8. This system under normal use and environment has a life expectancy of 10 years. A manufacturer or approved inspector assessment and certification is required every 5 years thereafter. (General maintenance and inspection is required every 12 months) Any structural mount mega post that is anchored using epoxy adhesive anchorages will require proof load testing prior to commissioning of the system. The anchorages will require 12 monthly testing thereafter to ensure the ongoing suitability and performance of the system. Follow the specific load test requirement depending on the epoxy used along with manufacturer and engineer's specifications.
9. Operators of the structural mount mega post, if used for rope access, must have a minimum Level 1 IRATA qualification for rope access systems.
10. Any recertification of the structural mount mega post must only be done by a certified Level 2 rope access specialist or inspector certified by the manufacturer.
11. If the post is submerged in a garden bed, the post and the fixings must be painted with waterproof or bitumen paint.

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.

AUSTRALIAN STANDARDS SUMMARY

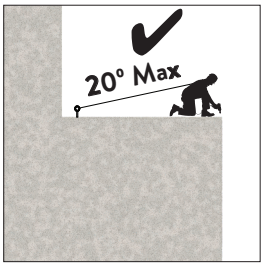


Figure 1

CORRECT Anchor loading in shear.

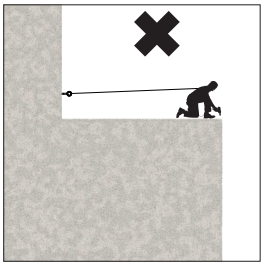


Figure 2

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

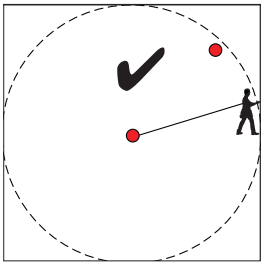


Figure 3

CORRECT Anchor positioning, NO risk of pendulum fall.

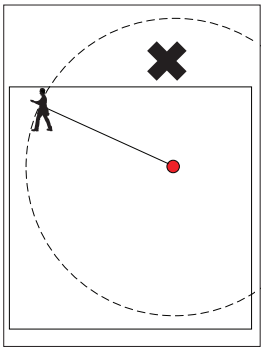


Figure 4

INCORRECT Anchor position, allows risk of pendulum fall.

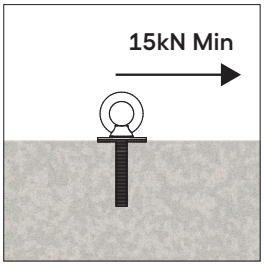


Figure 6

Load rating single person use

– 15kN design load - fall arrest/ single person

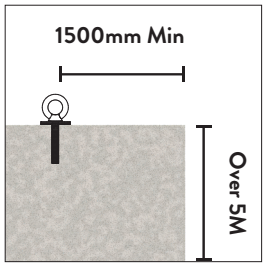


Figure 7

Anchor positioning for fall arrest minimum 1500mm from edge if vertical height is over 5000mm.

*See fall clearance page

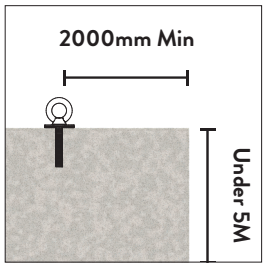


Figure 8

Anchor positioning fall arrest minimum 2000mm from edge if vertical height is under 5000mm.

*See fall clearance page

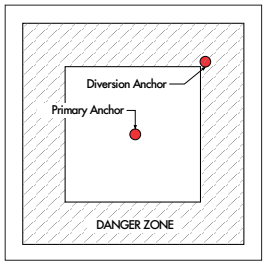


Figure 9

Primary anchor required in safe zone. Diversion anchor required in danger zone.

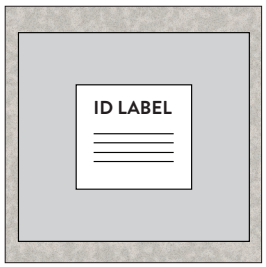


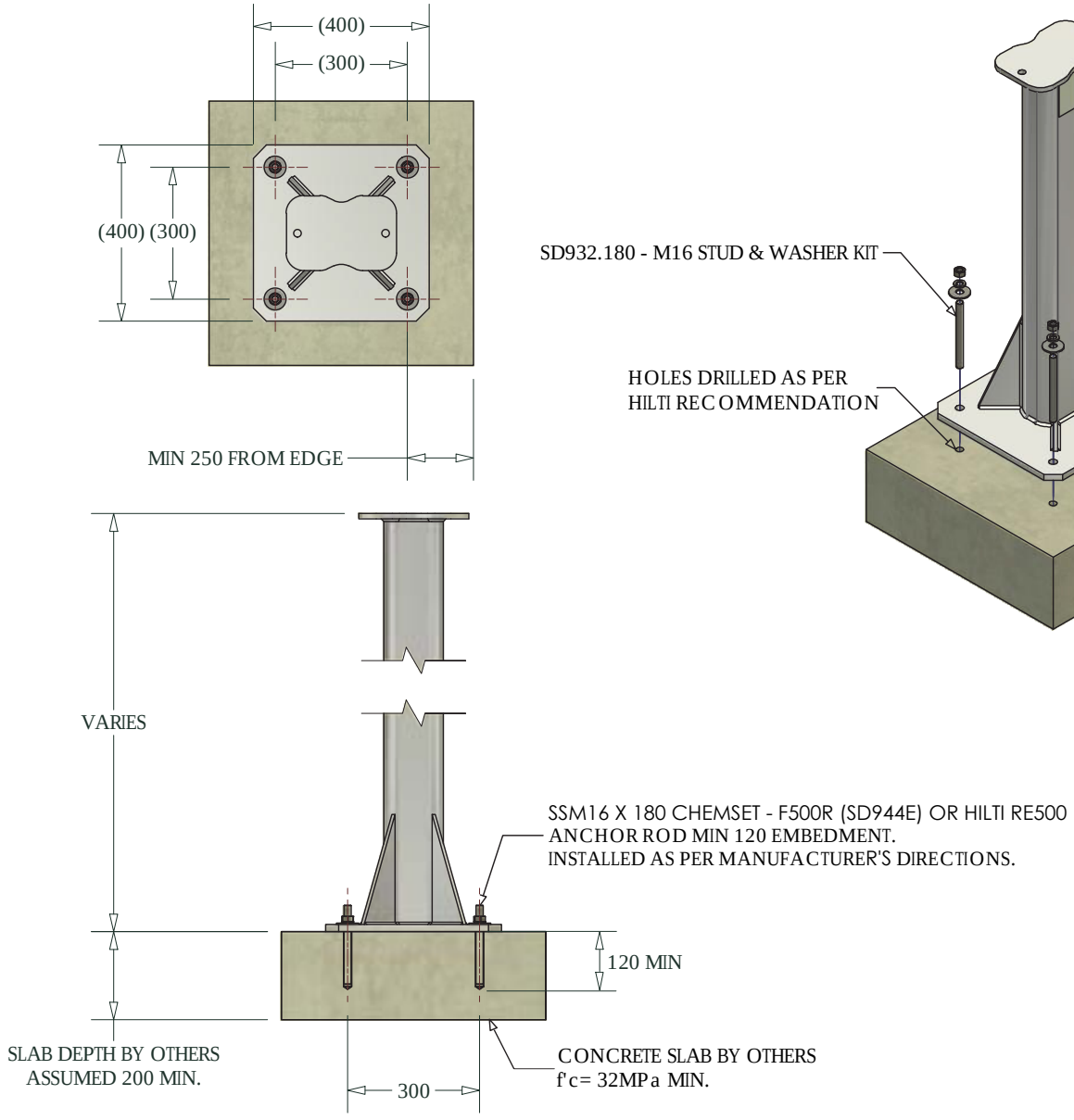
Figure 10

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

INSTALLATION PROCEDURE

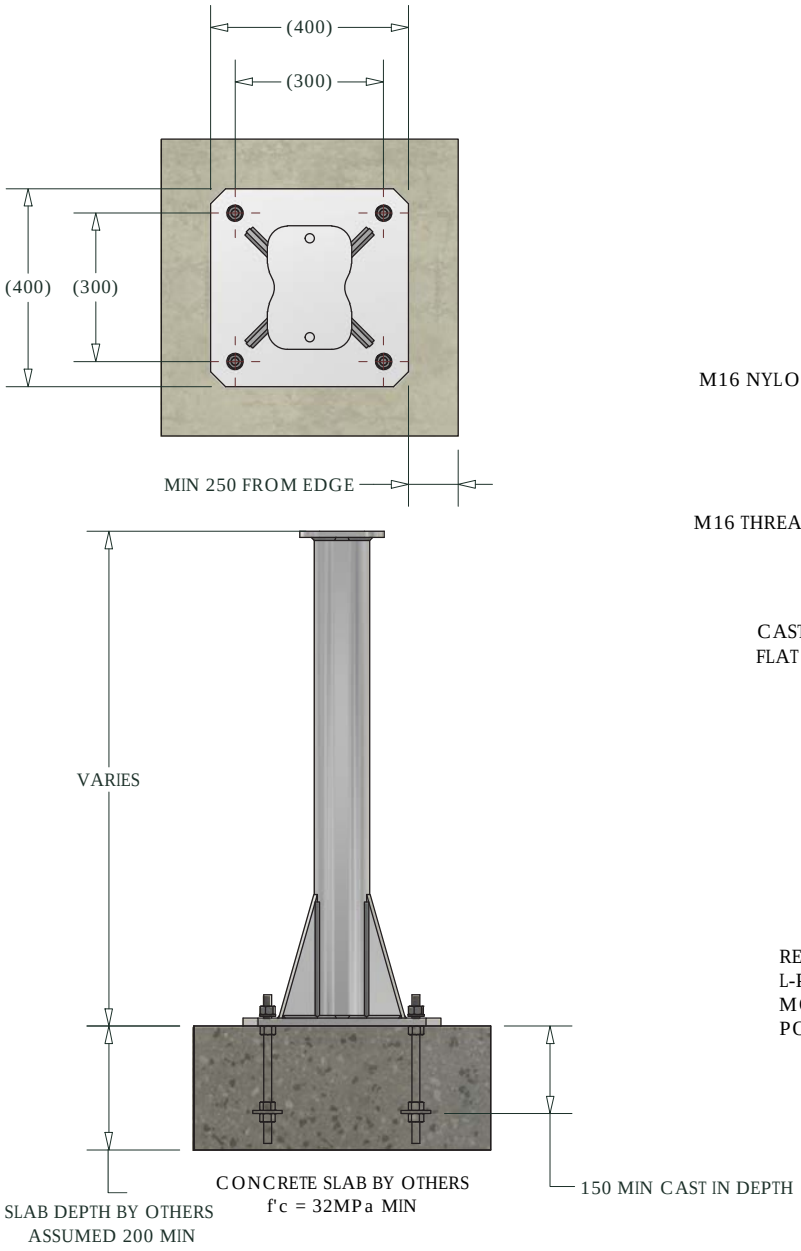
Concrete mount: epoxy adhesive fixing

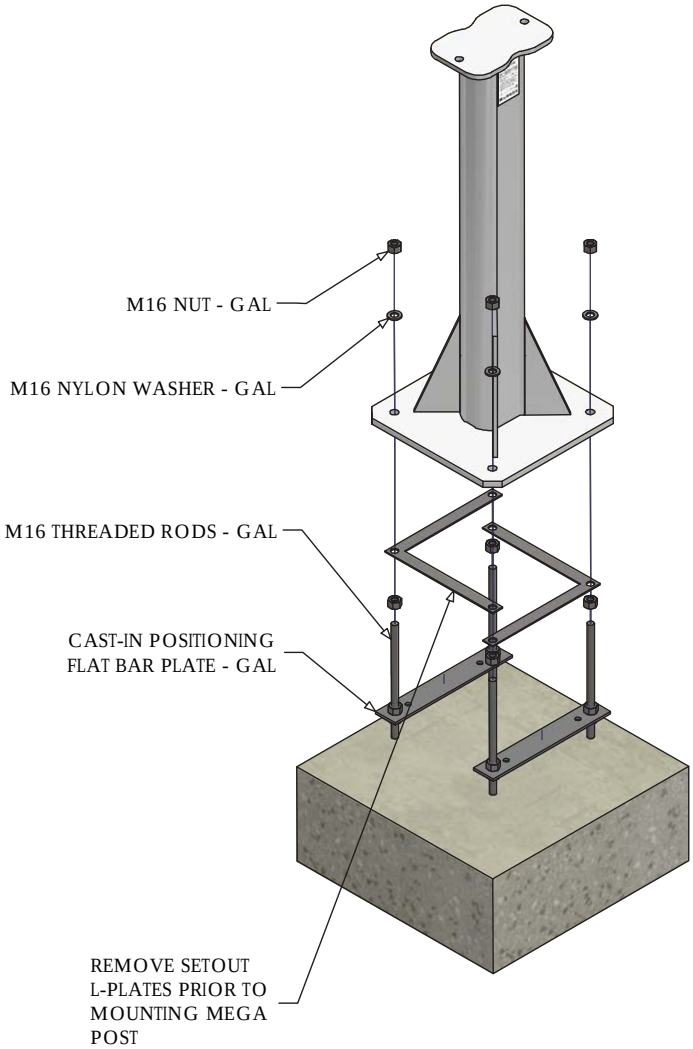
- The structural mount mega post must only be attached to an engineered structural support such as concrete or steel.
- Epoxy adhesive anchor requires minimum 120mm embedment into concrete.
- Recommended epoxy adhesive: extreme strength SD944E (EF500R+).
- M16 nuts to be torqued to 60 - 80Nm.
- Load testing required every 12 months.
- If the post is submerged in a garden bed, the post and the fixings must be painted with waterproof or bitumen paint.
- Where access to the fixings for pull testing is difficult, it is recommended that the cast-in fixing method is used where possible.
- If there is a gap under the base, non-shrink grout must be used.



Concrete mount: cast-in

- The structural mount mega post must only be attached to an engineered concrete structure.
- Cast-in method recommended if post submerged in garden bed and fixing not easily accessible for testing.
- AP160 cast-in cage bolt kit requires 200mm minimum slab thickness.
- M16 nuts to be torqued to 60 - 80Nm.
- No load testing of the cage bolt fixing required after installation or during recertification.
- If the post is submerged in soil, the post and the fixings must be painted with waterproof bitumen paint.
- If there is a gap under the base, non-shrink grout must be used.



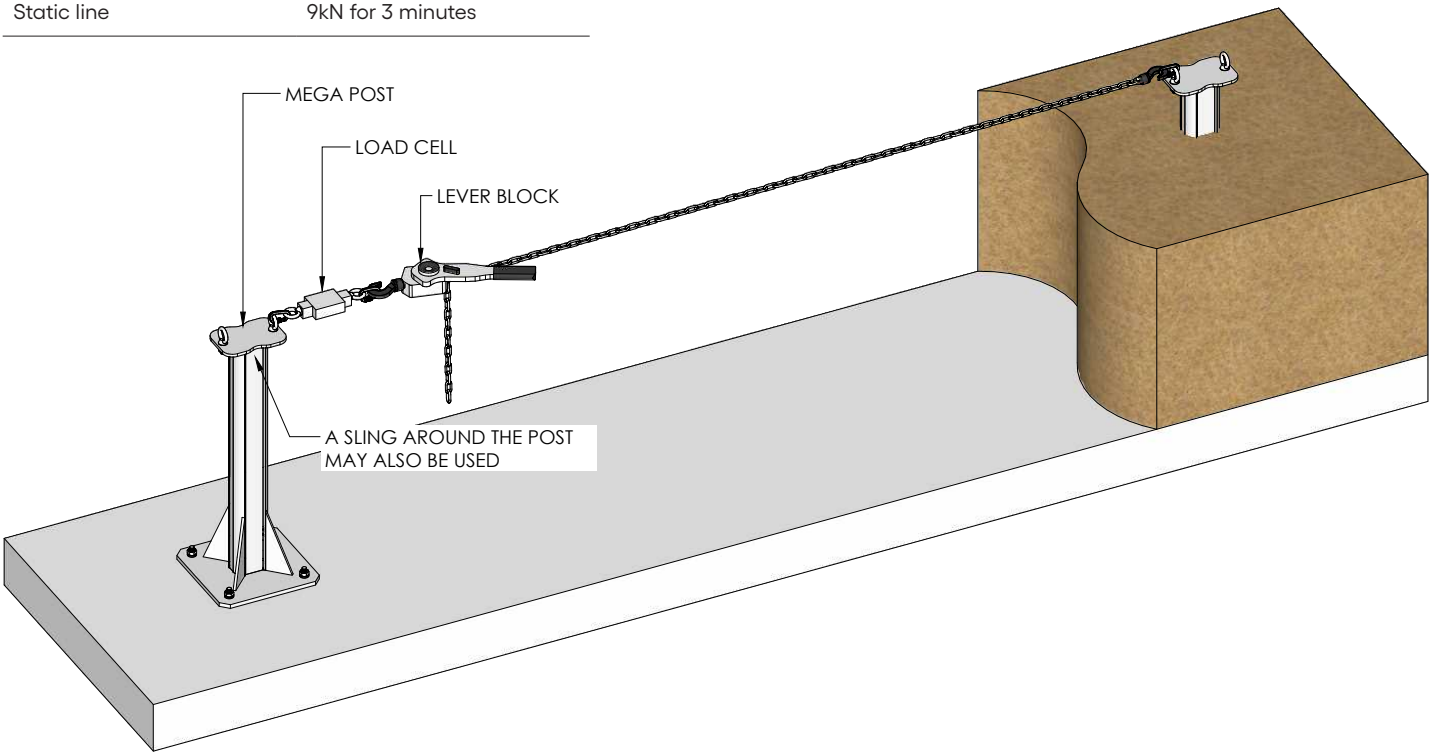


FASTENER LOAD TESTING OPTIONS

Tensile load applied using pull tester (where fastener can be accessed)

Tensile load applied by sideways load between two posts (where fasteners cannot be accessed)

Purpose of use	Load test
Rope access	6kN for 3 minutes
Fall arrest	7.5kN for 3 minutes
Static line	9kN for 3 minutes



INSTALLATION CRITERIA

Component	Installation criteria
Concrete 	Structure to be sound, not flaky or sandy.
	Concrete slab minimum 32 MPa.
	Slab thickness minimum 200mm.
	Edge distance to closest anchor/frame minimum 250mm.
Fixings - Epoxy adhesive	M16 SS stud minimum 120mm concrete embedment.
	Stud anchors proof load tested to 15kN for 3 minutes.
Fixings - Concrete cast-in	M16 SS threaded stud to protrude max 60mm (min 150mm embedment)
Data label	Installation certification label attached with required install details.

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. Concrete structure must be sound and any signs of break down must be assessed by a structural engineer or competent person as to suitability.
3. The identification label must be completed confirming certification, maintenance and recertification of the system.
4. 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.
5. Any deterioration or damage to the system or equipment must be reported to person in control of the workplace and relevant corrective action undertaken.
6. 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.

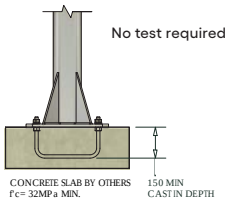
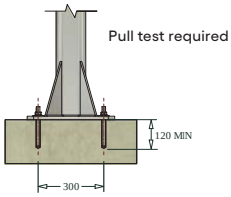
MAINTENANCE CHECKLIST

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
Mega post 	Check for any signs of weld cracks or concerns.			
	Check for any signs of post anchor overload or deformation.			
	Check any attachment plates to post are secure with no signs of overload or deformation.			
Base fixing/pull test  	If base fixing is cast-in, no pull testing of M16 fixing is required.			
	If base fixings are friction fit or glued in, each fixing will require a pull test to 15 kN and held for 3 minutes with no anchor movement.			
	Ensure all M16 fixing nuts are torqued to 60 - 80 Nm.			
	Inspect base for any signs of galvanised coating break down or evidence of corrosion developing.			
	Visually inspect substructure to which base is attached and ensure no break down, deformation or deterioration.			
Data label	Data label attached at each anchor.			
	All relevant data filled out including next maintenance date.			

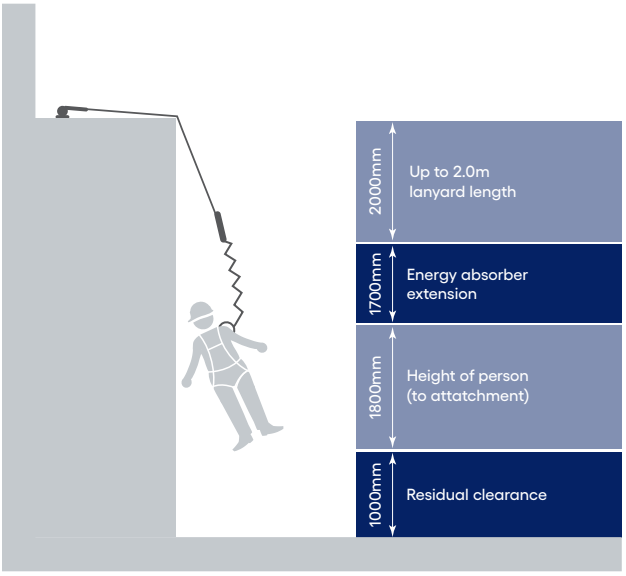
TECHNICAL INFORMATION

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 Australian and New Zealand Standards 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 and New Zealand 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

Structural mount mega post

AP150

Structural mount mega posts are for use in situations where a fall arrest or rope access system needs to be raised above garden beds, or to reduce fall distance.

Materials

- Post: high-grade aluminium
- Adaptor plate: stainless steel

Dimensions

- Height options: 400, 600, 800 and 1000mm
- Base plate: 400 x 400mm (anchor fastener spacing 300mm)

Weight

- 13kg (AP150.1000)

Fixings (refer to installation manual)

Epoxy adhesive

- Stainless steel HDG all-thread x 180mm
- 18mm hole, minimum 120mm embedment into concrete
- Recommended epoxy adhesive: extreme strength SD944E (EF500R+)

Concrete cast-in

- AP160 300 x 300mm cast-in cage
- Minimum concrete thickness: 200mm
- Minimum embedment: 150mm

Substructure requirements

- Support structure integrity, suitability and fixing method to be assessed and determined by an engineer unless it is clear to a competent person prior to installation
- Concrete cast-in minimum concrete thickness: 200mm

Rating

- Rope access: 18kN (two persons including rescue)
- Fall arrest: 15kN (including rescue)
- Static line end stanchion, corners and intermediates: 18kN/12kN (ultimate load 18kN)

Compliance

The AP150 Mega post structural mount anchor is designed and manufactured to conform to requirements of Australian and New Zealand Standards AS/NZS 1891, AS/NZS 5532, AS/NZS ISO 22846 and relevant statutory WHS Codes of Practice/Guidelines.

Testing

Testing and performance based on requirements of Australian and New Zealand Standards AS/NZS 5532:2013 and AS/NZS 1891

- Dynamic load tested: 18kN
- Static load tested: 18kN

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. (Refer to 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.

Product brochure
Structural mount mega post

Installation manual
Structural mount mega post

QMS Certification
ISO 9001:2015

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

Kattsafe

Height access
and fall protection

1029 Mountain Highway
Boronia Victoria 3155
Australia

1300 301 755
sales@kattsafe.com.au
kattsafe.com.au

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