Kattsafe Height access and fall protection

INSTALLATION MANUAL

DAVITS

OH500

Kattsafe's lightweight aluminium davit provides safe rope access to building façades for maintenance.

Product brochure
Davits

Installation manual
Davits

Operation manual
Davits

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

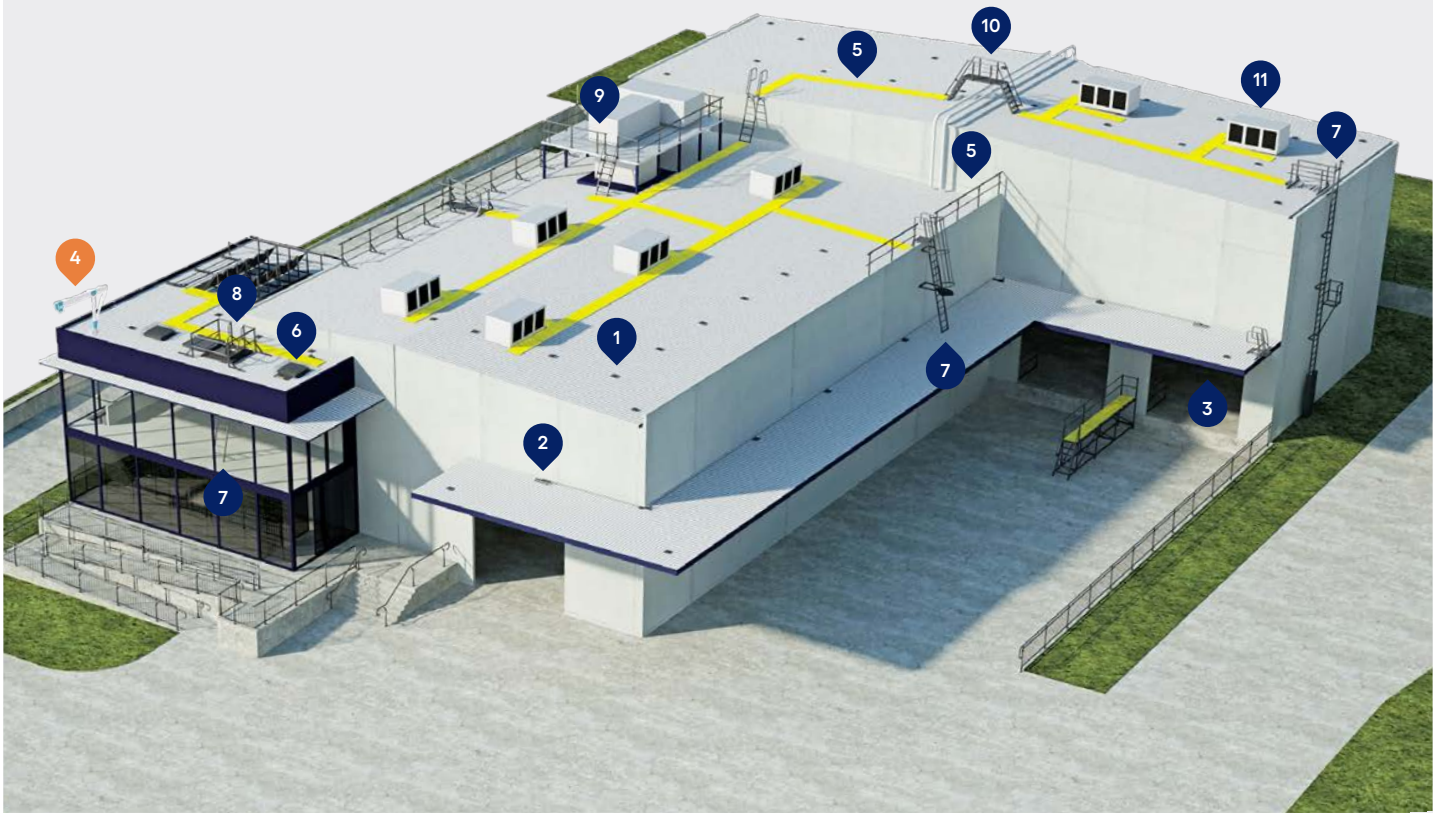
Commercial building height access and fall protection requirements

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



DAVIT SYSTEM

A proprietary facade rope access system providing access over non load-bearing parapets, balustrades and curtain walls.

Adjustable boom anchor

The anchor is designed to be positioned anywhere along the boom, providing flexibility for the operator.

High strength construction

Manufactured from high grade structural aluminium and powder coated stainless steel.

Easy use locking pins

Providing secure connection of the systems assembly.

Multiple configurations

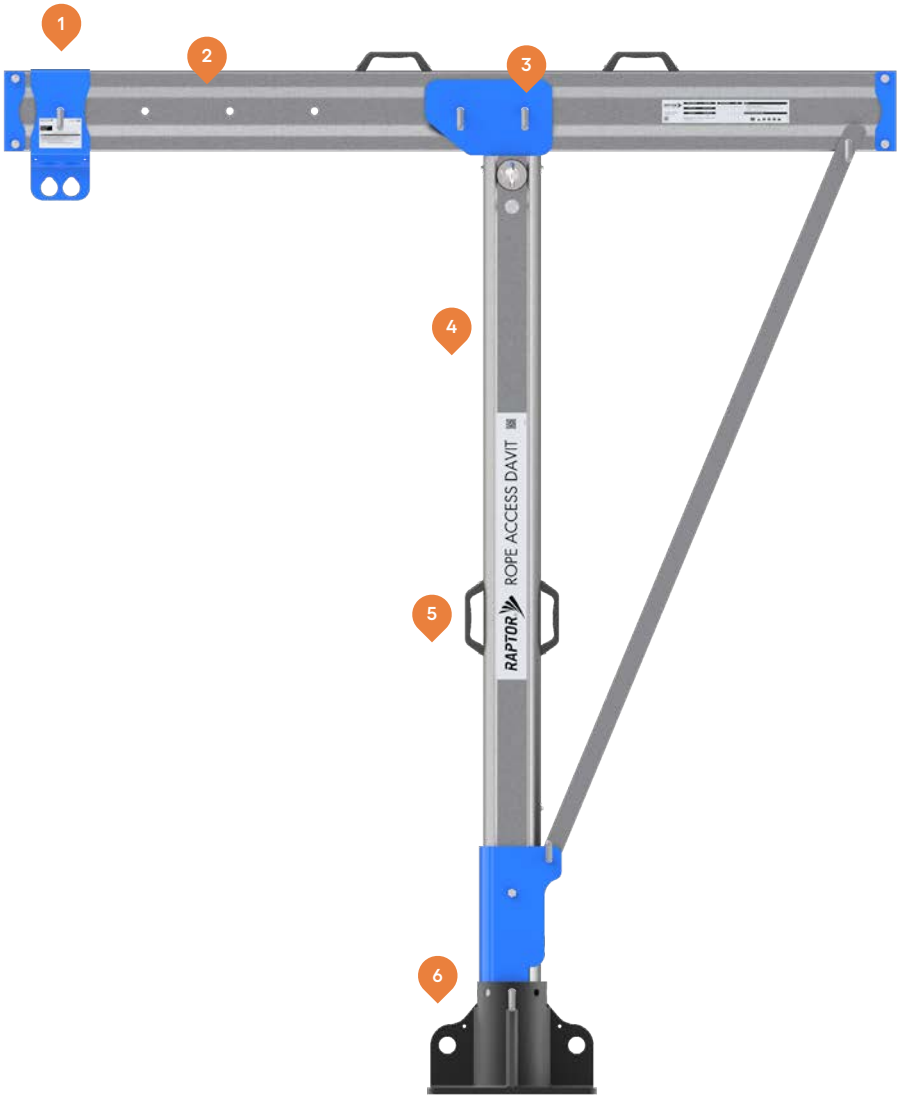
Available in many heights and reaches to suit all facade requirements.

Carry handles

For aid in assembly and transport.

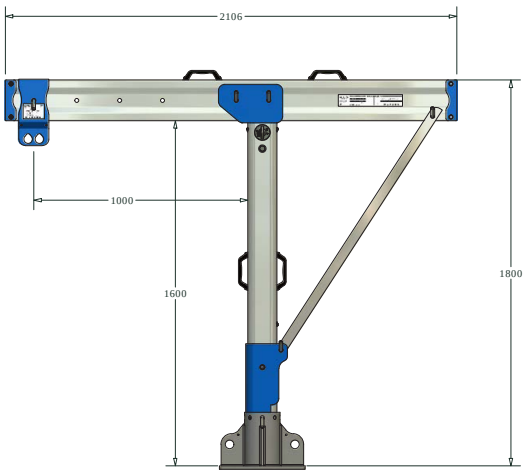
Mounting options

Designed to work with many different davit bases including floor, wall and cast in options.



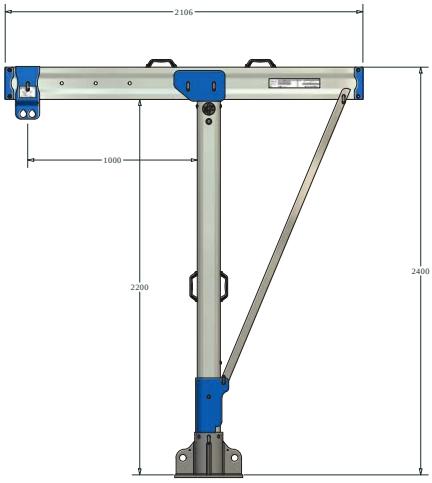
DAVIT CONFIGURATIONS

OH510.1600



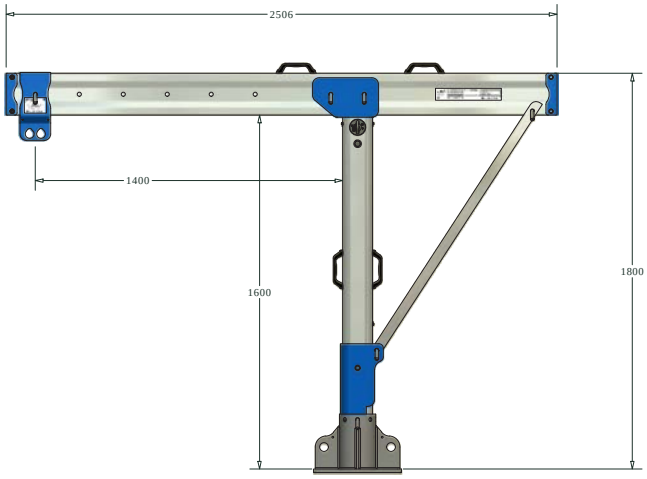
Reach (mm)	1000
Height (mm)	1600
Rating (kN)	12 (Tested to 15)
Safe working load (kg)	400
Operational angle (deg.)	360° with 45° locking pin increments
Mast weight (kg)	22
Boom weight (kg)	15
Brace weight (kg)	4
Total weight (kg)	41 (excluding base)

OH510.2200



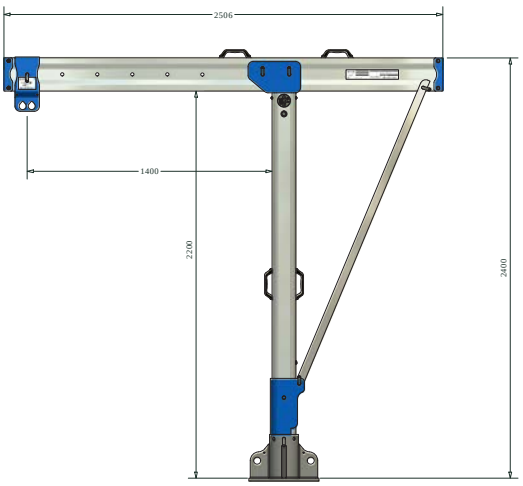
Reach (mm)	1000
Height (mm)	2000
Rating (kN)	12 (Tested to 15)
Safe working load (kg)	400
Operational angle (deg.)	360° with 45° locking pin increments
Mast weight (kg)	26
Boom weight (kg)	15
Brace weight (kg)	7
Total weight (kg)	48 (excluding base)

OH514.1600



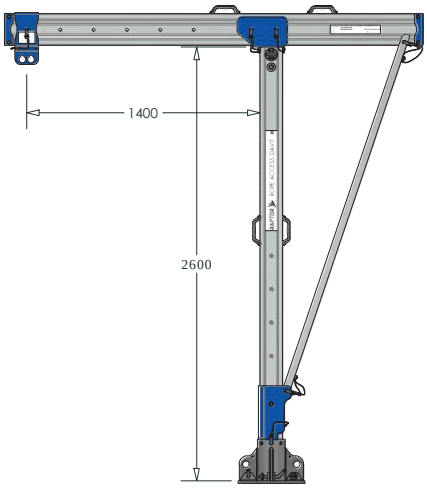
Reach (mm)	1400
Height (mm)	1600
Rating (kN)	12 (Tested to 15)
Safe working load (kg)	400
Operational angle (deg.)	360° with 45° locking pin increments
Mast weight (kg)	22
Boom weight (kg)	17
Brace weight (kg)	4
Total weight (kg)	43 (excluding base)

OH514.2200



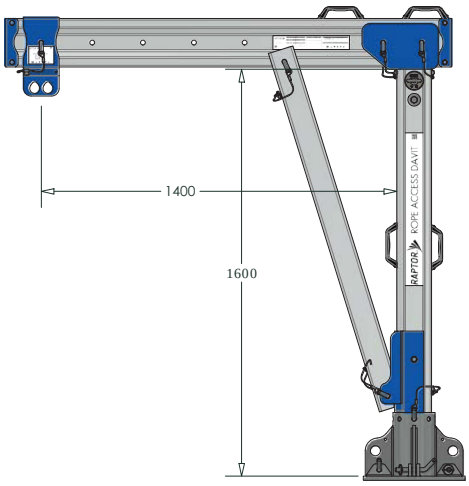
Reach (mm)	1400
Height (mm)	2200
Rating (kN)	12 (Tested to 15)
Safe working load (kg)	400
Operational angle (deg.)	360° with 45° locking pin increments
Mast weight (kg)	26
Boom weight (kg)	17
Brace weight (kg)	7
Total weight (kg)	50 (excluding base)

OH514.2600



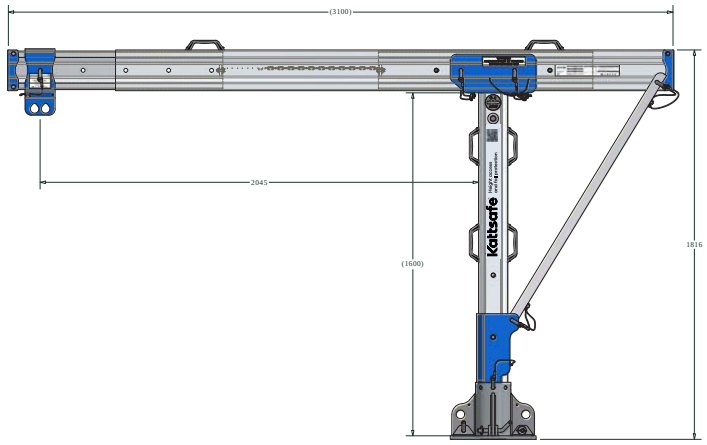
Reach (mm)	1400
Height (mm)	2600
Rating (kN)	12 (Tested to 15)
Safe working load (kg)	400
Operational angle (deg.)	360° with 45° locking pin increments
Mast weight (kg)	42
Boom weight (kg)	17
Brace weight (kg)	9
Total weight (kg)	68 (excluding base)

OH514F.1600



Reach (mm)	1400
Height (mm)	1600
Rating (kN)	12 (Tested to 15)
Safe working load (kg)	400
Operational angle (deg.)	360° with 45° locking pin increments
Mast weight (kg)	22
Boom weight (kg)	18
Brace weight (kg)	8
Total weight (kg)	48 (excluding base)

OH520.1600



Reach (mm)	2000
Height (mm)	1600
Rating (kN)	12 (Tested to 15)
Safe working load (kg)	400
Operational angle (deg.)	360° with 45° locking pin increments
Mast weight (kg)	40
Boom weight (kg)	29
Brace weight (kg)	5
Total weight (kg)	74 (excluding base)

Important

– If a cast-in cage is required, the AP162 must be used.

– Take not of concrete and fixing depth requirements on page 13.

MOUNTING OPTIONS

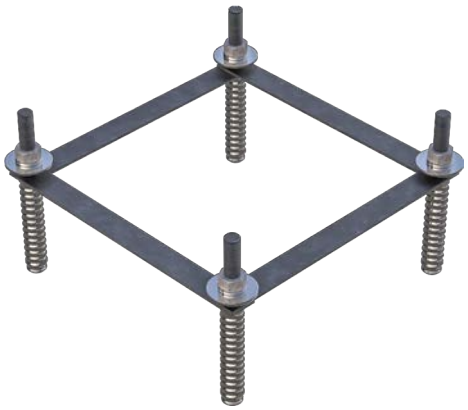
AP160 Cast-in cage bolt kit

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

OH520.1600 davit requires a AP162 kit

AP161 Epoxy adhesive mounting kit

- Used where there is little to no space for a permanent davit base.
- It can be fastened to the ferrules when needed.
- Pull testing required every 12 months.



OH520 Davit base - floor mount

- The floor mount base plate attaches directly to the floor slab using cast-in or chemical anchor fixings.
- Galvanised steel finish & incorporates safety anchorage attachment points.
- Certification label included.
- Unit weight: 31kg

OH521 Davit base - wall mount

- The wall mount base plate is designed for vertical parapet connections where the structure has been designed for rope access loads using a cast-in or chemical anchor attachment.
- Galvanised steel finish.
- Certification label included.
- Unit weight : 31kg

OH522 Davit base - cast-in

- Used in applications where the base is designed to be flush with surface area and is cast into the concrete slab during construction. This method of installation does not require ongoing load testing to the base.
- Minimum slab requirements: 300mm at 32mPa.
- Galvanised steel finish.
- Certification label included.
- Unit weight: 31kg

OH523 Davit base - low profile and
OH524 Davit base - low profile sleeve

- Used in applications where base is required to be mounted beneath removable paving such as balconies, where visual aesthetics are of importance.
- The base plate is connected directly to the floor slab using cast-in or chemical anchor attachment.
- Galvanised steel finish.
- Certification label included.
- Base weight: 23kg
- Tube weight: 10kg

Note: Used in removable paving type applications. Only one OH524 sleeve required per davit assembly.

DAVIT COMPONENTS

Aluminium boom

- High grade structrual aluminium.
- Anodised finish for increased durability.

Mast super structure

- High grade structural aluminium.
- Anodised finish for increased durability.

Primary rigging anchor

- Powder coated stainless steel.
- Allows adjustable positioning on boom with a lockable pin.

Davit base

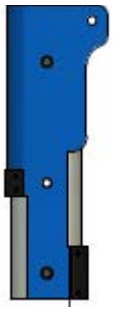
- Galvanised steel.
- Additional rigging anchor points.
- Davit can be rotated in any direction depending on positional requirements.

Support brace

- High grade structural aluminium.
- Transfers the system loads onto the steel base.

Mast support bracket

- Powder coated profiled stainless steel.
- Distributes the system loads applied to the mast.
- The OH250.1600 has an additional steel hollow section inside for increased strength.



Locking pins

- Galvanised steel.
- Designed with a quick release locking system.

Carry handles

- High density nylon.
- Ensuring easy handling and system use.

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

Chemical applicator

- SD944D.E Extreme strength epoxy dispenser kit

Epoxy adhesive

- S944E (EF500R+) Extreme strength

Only extreme strength structural epoxy must be used.

Load tester

Spirit level

Marking pen

Tape measure

RECOMMENDED FIXINGS

SD937.180 / SD937.200 M16 Threaded stud kit

- Used for retrofit attachment of the structural mount mega post into concrete using epoxy adhesive anchoring system.
- Minimum 120mm / 140mm embedment.

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.

SD960G Undercut anchor

Used for attachment of the OH521 wall mount davit base in vertical wall applications.

INSTALLATION REQUIREMENTS

Must be read prior to installation

1. Concrete slab strengths to which davit base is connected to be minimum of 32 MPa.
2. Concrete thickness minimum 200mm for epoxy adhesive anchors when retrofitting a davit base and 300mm for cast-in base fixings.
3. When using epoxy adhesive anchorages, Kattsafe recommends the SD944E (EF500R+) epoxy adhesive or equivalent to be used.
4. Davit base must be mounted level with a maximum of 2.5 degrees tolerance.
5. When positioning the davit base, a minimum edge distance of 250mm is required to the closest fixing or structure edge.
6. When retrofitting the OH521 wall mount davit bracket to a concrete wall, the only suitable fixing to be used is the M12 x 80 undercut anchor.
7. This system must only be installed by competent persons trained in the selection, use and maintenance of fall arrest and rope access systems.
8. 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.
9. 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.
10. Integrity and suitability of the structure to which this system is attached must be approved by a structural engineer.
11. 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.
12. 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.
13. 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.
14. Appropriate temporary access and safety equipment must be used during installation, such as temporary guardrail or fall arrest system.
15. Do not modify or remove any element of the support structure without prior authorisation by a qualified engineer.
16. Decorative coatings and coverings must be removed to ensure correct evaluation of structure prior to attachment of system.
17. In case of emergency, fall arrest and rope access systems must be installed by a minimum of two persons.
18. Do not tamper with, modify or remove any part this system unless authorised by the manufacturer.
19. Appropriate labels or markings must be attached to each davit 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
20. 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).

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. The davit is designed for single person use only with a maximum Safe Working Load of 400kg.
2. The davit is not to be used under severe wind conditions greater than 37kph / 23mph (IRATA requirement).
3. The davit is not designed for glass replacement unless specifically engineered and manufactured to suit the specific requirements. This is to be clearly identified on the davit tagging system.
4. Prior to use, ensure all operating procedures have been read and properly understood.
5. This fall arrest system is only to be used by competent persons who have experience and training in the safe use of the system and associated equipment.
6. Ensure all workplace 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.
7. This system requires periodic inspection and maintenance by a qualified height safety inspector. The system MUST NOT be used if the service date is overdue.
8. A rescue plan must be formulated and ready for implementation prior to using any fall arrest system.
9. Authorisation to access any risk area must be obtained from the person in control of the workplace.
10. Only approved full body harness, gear and equipment with an energy absorber certified to Australian Standard AS/NZS 1891 is to be used with this system.
11. Visually inspect the system for damage prior to use. The system must not be used if there is any deterioration or deformation of components or the structure to which the system is attached.
12. If the safety 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.
13. 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.
14. Persons must not be allowed to work alone in fall arrest situations in case emergency rescue assistance or first aid is required.
15. All applicable Australian Standards, WHS Acts & Regulations, and Codes of Practice & Guidelines must be read and obeyed when using this safety system.
16. The reading of this operation manual does not replace the need for completing a recognised height safety training course by a Registered Training Organisation (RTO).
17. All applicable Australian Standards, WHS Acts & Regulations, and Codes of Practice & Guidelines must be read and obeyed when using this safety system.
18. The reading of this operation manual does not replace the need for completing a recognised height safety training course by a Registered Training Organisation (RTO).

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

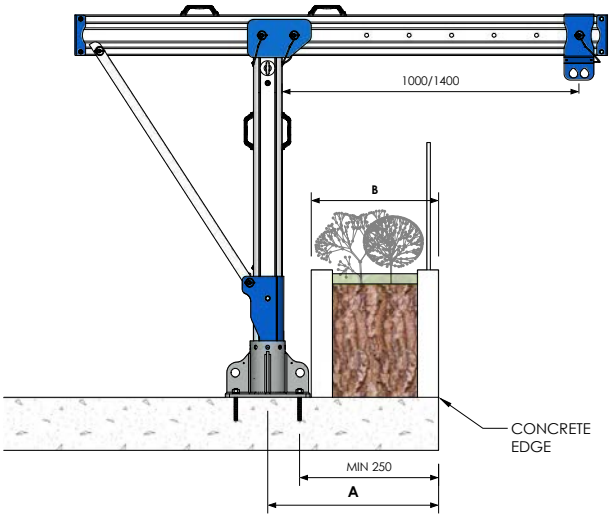
Must be read prior to installation

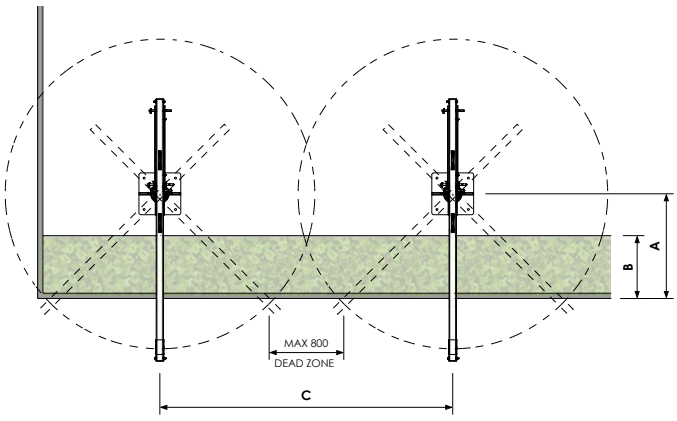
1. Ensure facade area to be accessed is within the drop zone of the davit. (Typical drop zone is approx 800mm either side of the davit boom).
2. The davit is designed to rotate allowing greater drop zone coverage (see table below).
3. Ensure the davit is positioned correctly in proximity to the edge to ensure effective boom rotation function.
4. If the system is designed for glass replacement, a davit base will be required above each individual glass panel.
5. Ensure davit model selected allows sufficient clearance above all areas of parapet/balustrade.
6. Position base so that the davit can be assembled and inserted into the socket without risk of falling and then rotated into position then insert pin is inserted into base.

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

Davit layout spacing

A: Distance from facade to centre of davit (mm)	B: Approx clearance (mm)	C: OH510 davit (1000mm cantilever) (mm)	C: OH514 davit (1400mm cantilever) (mm)
400	100	2600	3600
600	300	2300	3300
800	500	2000	3100
1000	700	1300	2700
1200	900	N/A	2200
1400	1100	N/A	1500





DAVIT ASSEMBLY PROCEDURE

Step 1

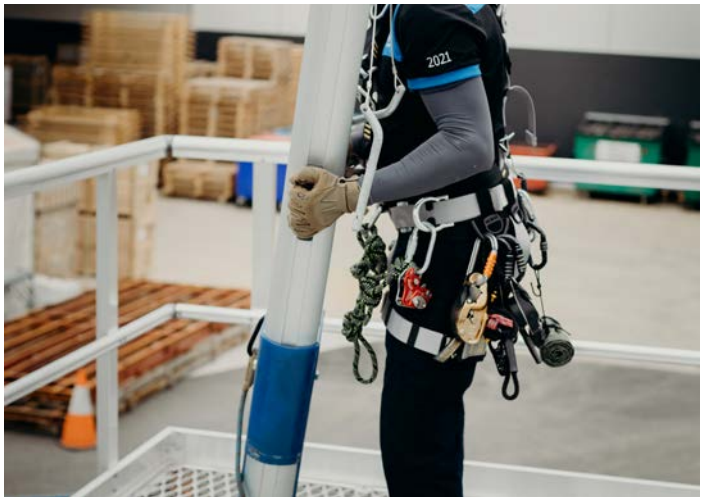
- Always ensure that all risks are taken account of and a method put in place to reduce the risk, especially falls from heights, during the assembly of the davit.
- The davit base may be used as a fall arrest anchor point or attachment point or for equipment to prevent falls from heights. Rated at 15kN fall arrest or rope access use.

Step 2

In the case where persons are working close to an unprotected edge, ensure the mast is attached to the base with a short lanyard to prevent any possibility of falling items.

Step 3

Insert the mast into the base as shown ensuring that the mast sits securely in the base.



DAVIT
ASSEMBLY PROCEDURE

Step 4

Detach the securing lanyard from the mast.

Step 5

Attach the securing lanyard to the attachment point on the boom.

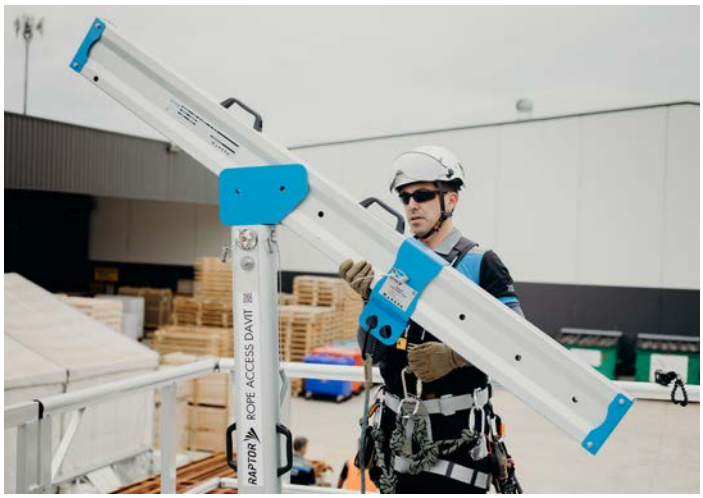
Step 6

- Make sure the mast is facing away from the fall edge (can be rotated) so that the boom cantilever is inward from the fall edge.
- Lift the boom into place.

DAVIT
ASSEMBLY PROCEDURE

Step 7

Ensure that the boom is inserted on the leading edge at an angle as shown.



Step 8

Align the first hole of the blue mast support with the hole in the boom and insert a locking pin through the mast support bracket and boom.

Step 9

Insert the clevis pin through the small hole in the pin. Ensure it has sprung into locked position.

DAVIT
ASSEMBLY PROCEDURE

Step 10

Lift the boom and insert the second locking pin.

Step 11

Insert the clevis pin through the small hole in the pin.
Ensure it has sprung into locked position.

Step 12

Attach the brace onto the back hole of the top boom.

DAVIT
ASSEMBLY PROCEDURE

Step 13

Insert the locking pin and clevis pin.

Step 14

Place the brace into the base support bracket.

Step 15

Align the holes and insert the locking pin and clevis pin.

DAVIT
ASSEMBLY PROCEDURE

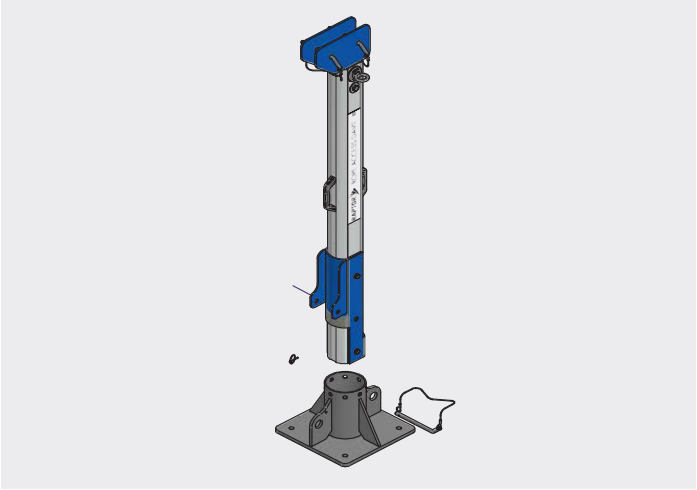
Step 16

Rotate the davit into required position and lock into position by inserting the locking pin through the base and mast then secure with clevis pin.

DAVIT FRONT BRACE ASSEMBLY PROCEDURE

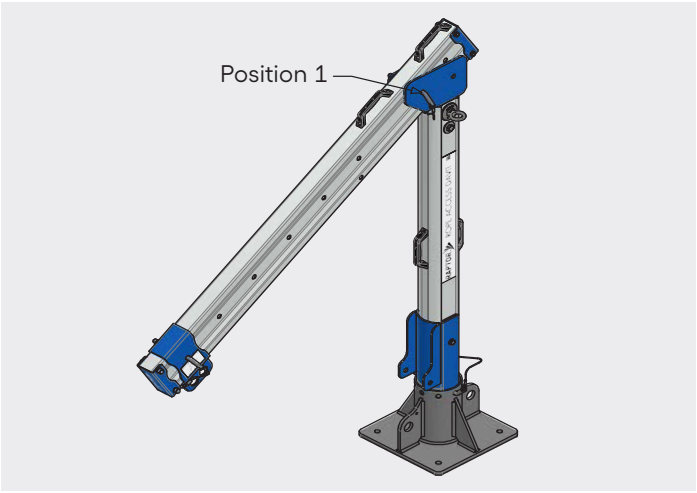
Step 1

- Insert mast into base.
- Position mast so that the boom can be placed into support housing from a safe position (parallel to edge).



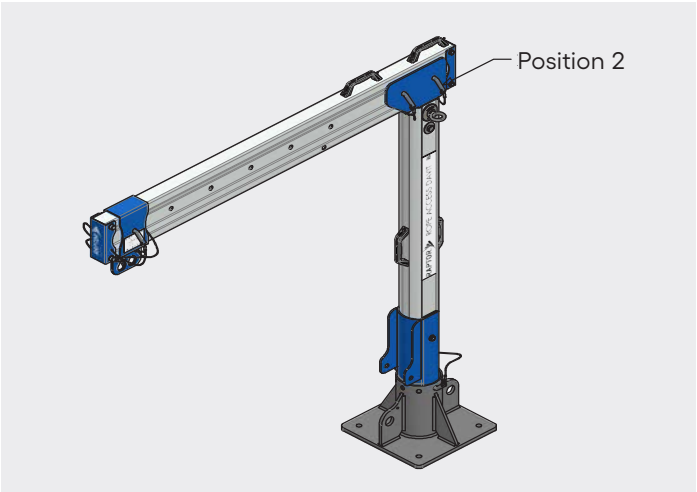
Step 2

- Position boom into support housing.
- Insert locking pin through the front hole (position 1).



Step 3

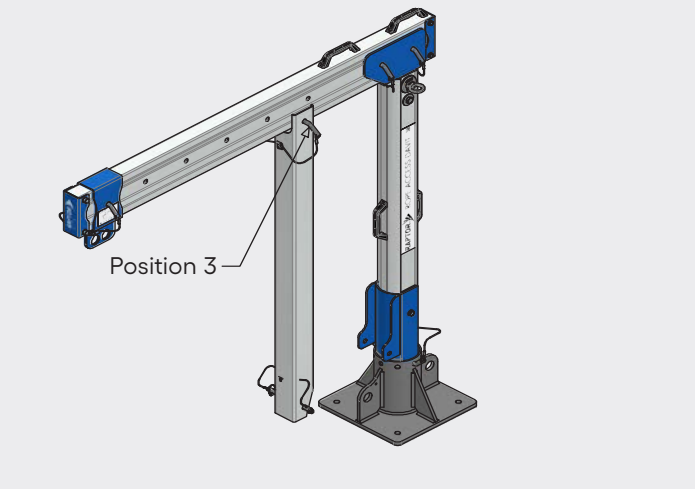
- Lift up boom.
- Insert locking pin (position 2).



DAVIT FRONT BRACE ASSEMBLY PROCEDURE

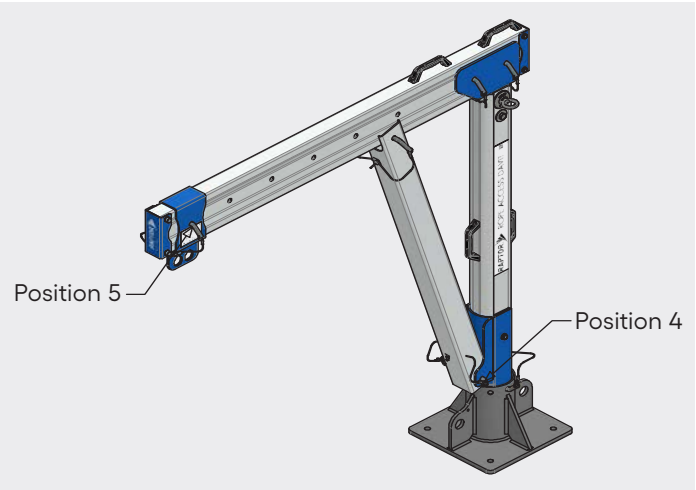
Step 4

Attach brace to boom with locking pin (position 3).



Step 5

- Attach brace to mast support bracket.
- Insert locking pin into base support (position 4).
- Locate rigging anchor in correct location and insert pin (position 5).
- Insert base locking pin.



DAVIT BASE - EPOXY ADHESIVE FIXING INSTALLATION PROCEDURE

Davit type	Fixing	Hole size (mm)	Minimum slab thickness (mm)	Load test specification
OH510.1600	M16 Threaded stud 180mm (SD937.180)	18 x 120	200	15kN/stud held for 3 minutes
OH510.2200	M16 Threaded stud 180mm (SD937.180)	18 x 120	200	15kN/stud held for 3 minutes
OH514.1600	M16 Threaded stud 200mm (SD937.200)	18 x 140	220	15kN/stud held for 3 minutes
OH514.2200	M16 Threaded stud 180mm (SD937.200)	18 x 140	220	15kN/stud held for 3 minutes
OH520.1600	M16 Threaded stud 180mm (SD937.200)	18 x 140	300	15kN/stud held for 3 minutes

Step 1

Obtain structural engineer's load certification approval on structure prior to installation.

Step 2

Set out davit bases to suit facade access requirements.

Step 3

Mark location of 4 x stud anchor fixings.

Step 4

Drill 18mm hole to specified depth. (See fixing specification table).

Step 5

Complete epoxy adhesive stud anchor fixing process (EF500R recommended).

Step 6

Load test stud anchors to specified requirements. (See fixing specification table.)

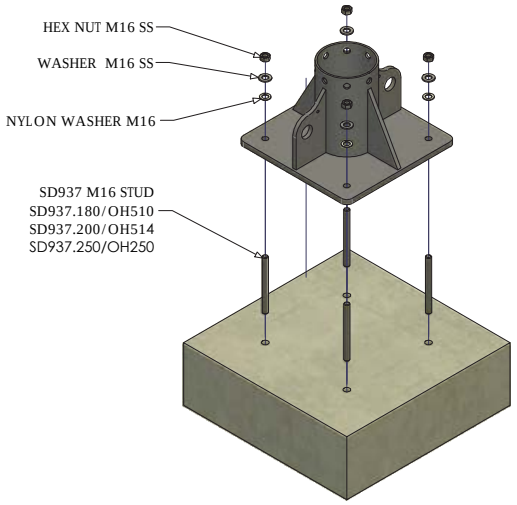
Step 7

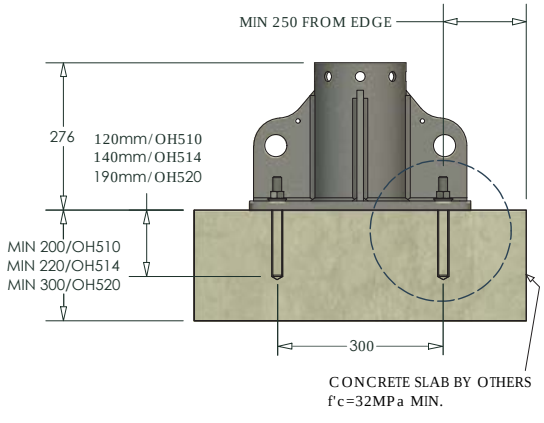
Mount davit base and set to level (+ -2 degrees) tension 4 x stud anchor M16 nuts to 60 - 80nM.

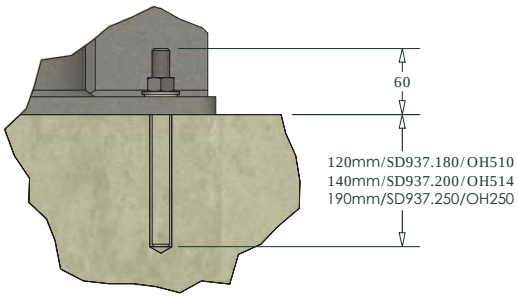
Step 8

Apply davit base information and certification label.

On the data plate, note epoxy adhesive anchor fixing used.







DAVIT BASE - CAST-IN CAGE BOLT INSTALLATION PROCEDURE

Davit type	Fixing	Hole size (mm)	Minimum slab thickness (mm)	Load test specification
OH510.1600	M16 Cast-in cage bolt set (AP160)	220	200	Load test not required
OH510.2200	M16 Cast-in cage bolt set (AP160)	220	200	Load test not required
OH514.1600	M16 Cast-in cage bolt set (AP160)	220	200	Load test not required
OH514.2200	M16 Cast-in cage bolt set (AP160)	220	200	Load test not required
OH520.1600	M16 Cast-in cage bolt set (AP162)	220	200	Load test not required

Step 1

Obtain structural engineer's load certification approval on structure prior to installation.

Step 2

Once slab reinforcing is in place, set out cage bolt assembly based on required davit location.

Step 3

Tie off cage bolt to reinforcing. M16 threaded stud to protrude finished concrete level by min 60mm.

Step 4

Pour concrete slab (min 32 Mpa).

Step 5

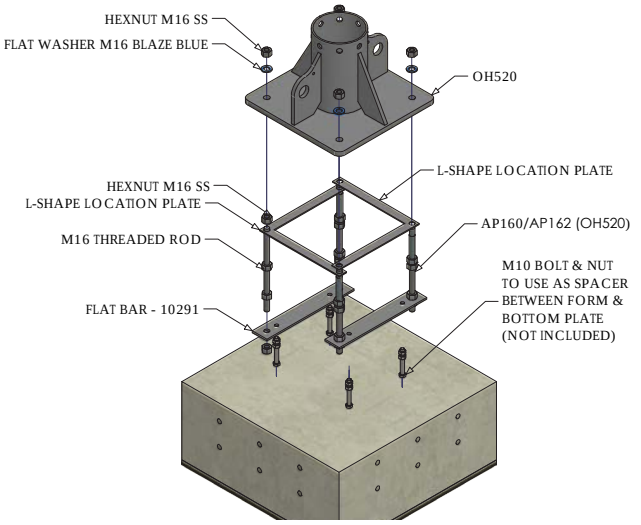
Once concrete has reached full strength, mount davit base onto stud anchors and tension M16 nuts to 85 Nm.

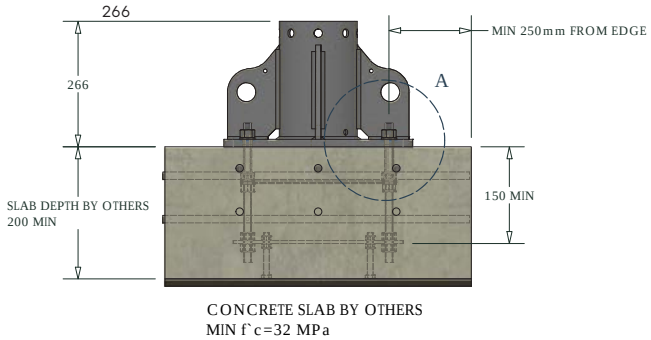
The davit base needs to be set to level by adjusting the levelling nuts. Any gap under the davit base needs to filled in using a non-shrink high strength grout.

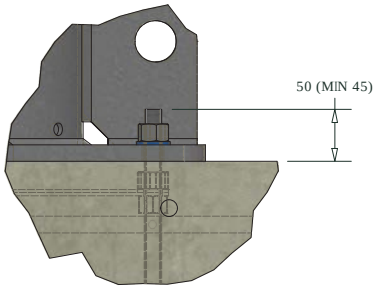
Step 6

Apply davit base information and certification label.

On the data plate, note cast-in fixing method used. No load test is required when using the AP160 cast-in cage fixing method.







DAVIT BASE - FLUSH MOUNT INSTALLATION PROCEDURE

Davit type	Fixing	Hole size (mm)	Minimum slab thickness (mm)	Load test specification
OH510.1600	Cast-in base flush mount (OH522)	300	220	Load test not required
OH510.2200	Cast-in base flush mount (OH522)	300	220	Load test not required
OH514.1600	Cast-in base flush mount (OH522)	300	220	Load test not required
OH514.2200	Cast-in base flush mount (OH522)	300	220	Load test not required

Step 1

Obtain structural engineer's load certification approval on structure prior to installation.

Step 2

Once slab reinforcing is in place, set out flush mount base in required davit location.

Step 3

Tie off flush mount base to reinforcing. Top face of bedding plate to either sit flush with concrete or on top of concrete slab.

Bedding plate must be set level (+ - 2 degrees).
Holes in base foot can be used to insert levelling support bolts if needed.

Step 4

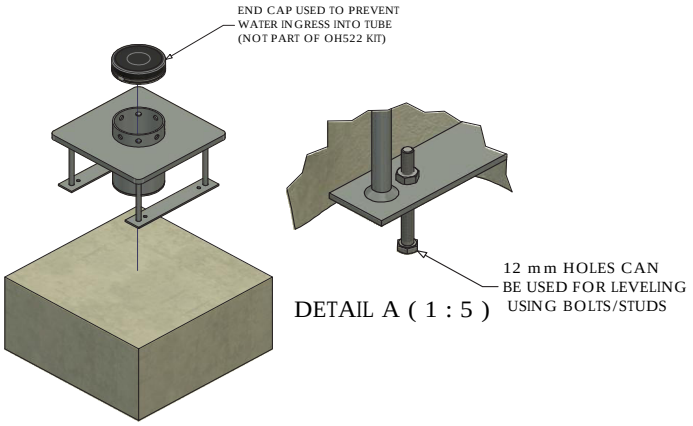
Pour concrete slab (minimum 32MPa). Ensure good flow of concrete under bedding plate.

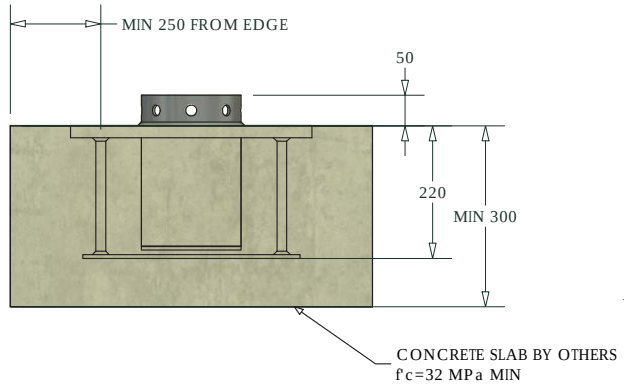
Step 5

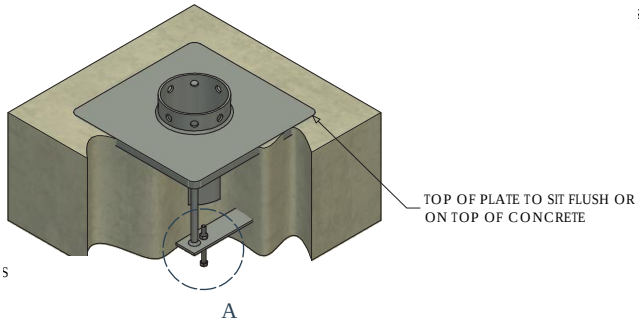
Apply davit base information and certification label.

No load test is required when using OH522 flush mount base fixing method.

On the data plate, note epoxy adhesive anchor fixing used.







DAVIT BASE - LOW PROFILE EPOXY ADHESIVE FIXING INSTALLATION PROCEDURE

Davit type	Fixing	Hole size (mm)	Minimum slab thickness (mm)	Load test specification
OH510.1600	M16 Threaded stud 180mm (SD937.180)	18x 120	200	15kN/stud held for 3 minutes
OH510.2200	M16 Threaded stud 180mm (SD937.180)	18x 120	200	15kN/stud held for 3 minutes
OH514.1600	M16 Threaded stud 200mm (SD937.200)	18x 140	220	15kN/stud held for 3 minutes
OH514.2200	M16 Threaded stud 200mm (SD937.200)	18 x 140	220	15kN/stud held for 3 minutes
OH520.1600	M16 Threaded stud 200mm (SD937.250)	18 x 190	300	15kN/stud held for 3 minutes

Step 1

Obtain structural engineer's load certification approval on structure prior to installation.

Step 2

Set out davit bases to suit facade access requirements.

Step 3

Mark location of 4 x stud anchor fixings.

Step 4

Drill 18mm hole to specified depth. (See fixing specification table).

Step 5

Complete adhesive epoxy fix stud anchor process (EF500R recommended).

Step 6

Load test stud anchors to specified requirements. (See fixing specification table.)

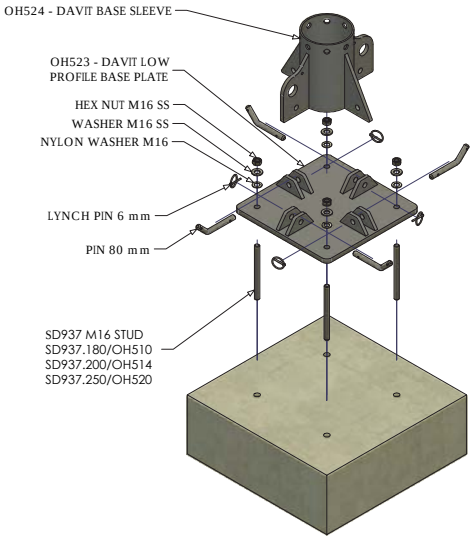
Step 7

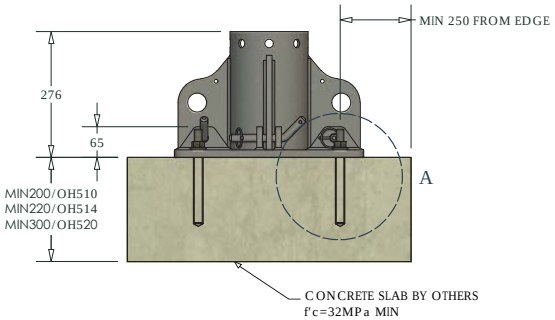
Mount davit base and set to level (+ -2 degrees) tension. 4 x stud anchor M16 nuts to 60 - 80nM.

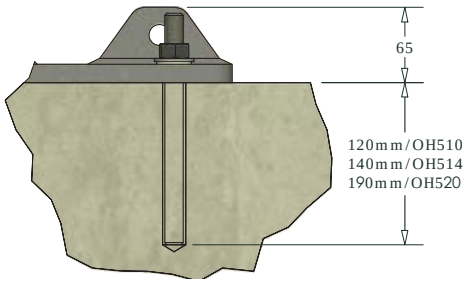
Step 8

Apply davit base information and certification label.

On the data plate, note epoxy adhesive anchor fixing type used.



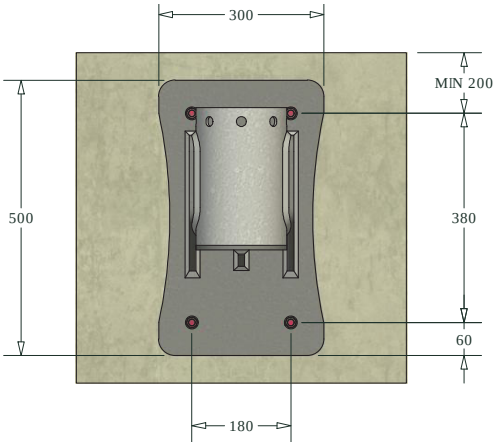




DAVIT BASE - WALL MOUNT, UNDERCUT FIXING INSTALLATION PROCEDURE

Davit type	Fixing	Hole size (mm)	Minimum slab thickness (mm)	Load test specification
OH510.1600	M12 x 80 Undercut anchor (SD960G)	18x 120	200	15kN/stud held for 3 minutes
OH510.2200	M12 x 80 Undercut anchor (SD960G)	18x 120	200	15kN/stud held for 3 minutes
OH514.1600	M12 x 80 Undercut anchor (SD960G)	18x 140	220	15kN/stud held for 3 minutes
OH514.2200	M12 x 80 Undercut anchor (SD960G)	18 x 140	220	15kN/stud held for 3 minutes

Note: OH520.1600 davit requires additional engineering, contact Kattsafe.



Step 1

Obtain structural engineer's load certification approval on structure prior to installation.

Step 2

Set out wall mount davit bases to suit facade access requirements.

Step 3

Mark location of 4 x drilled in M12 undercut anchors (SD960G) ensuring dedicated drill bit (SD961) and setting tool (SD962) are used for this installation.

Step 4

Drill 18mm hole to specified depth. (See fixing specification table).

Step 5

Complete installation of undercut anchor process.

SD961G drill bit and SD962G setting tool required.

Step 6

Load test undercut anchors to specified requirements. (See fixing specification table.)

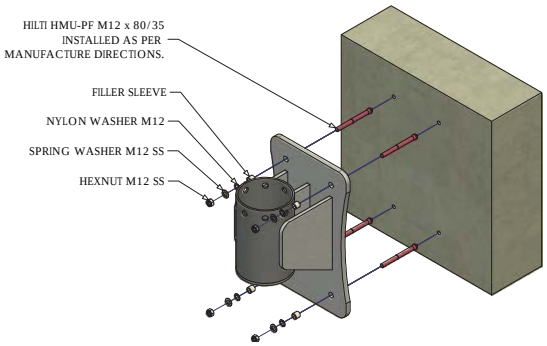
Step 7

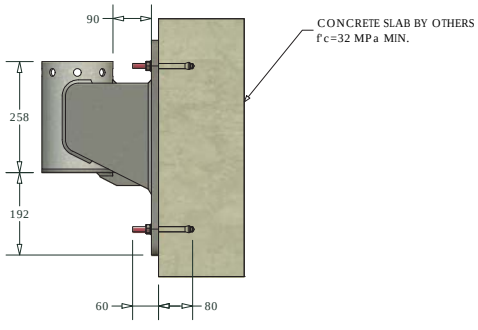
Install wall mount davit base and tension 4 x undercut anchors, M12 nuts to 60 Nm.

Step 8

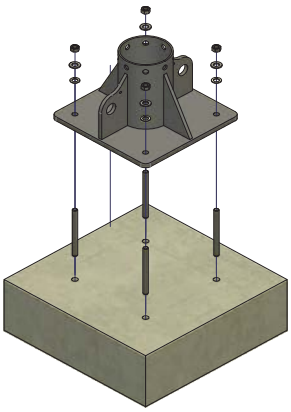
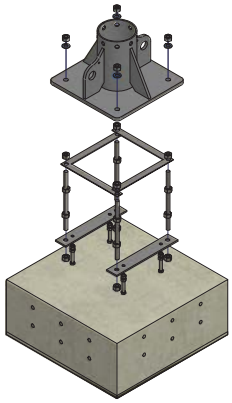
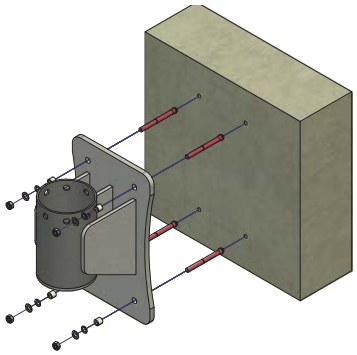
Apply davit base information and certification label.

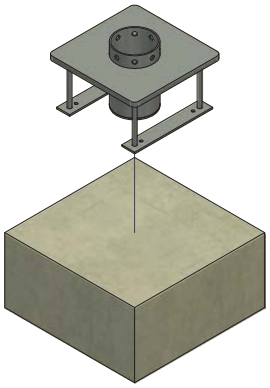
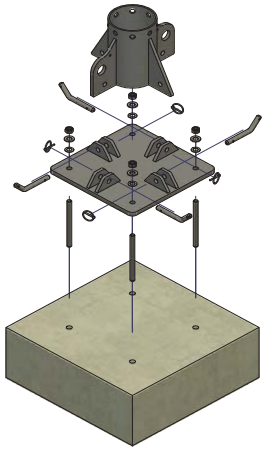
On the data plate, note HMU M12 undercut anchor used.





INSTALLATION CRITERIA

Component	Installation criteria
Epoxy adhesive base mount installation 	Concrete slab minimum 32MPa.
	Slab thickness minimum 200mm/OH510, 220mm/OH514 and 300mm/OH520.
	Edge distance to closest anchor minimum 250mm.
	M16 SS stud minimum embedment: 200mm/OH510, 220mm/OH514 and 300mm/OH520.
	Stud anchors proof load tested to 15kN for 3 minutes
	Davit base set level: + - 2 degrees.
Cast-in cage base mount installation 	Concrete slab minimum 32MPa.
	Slab thickness minimum 220mm.
	Edge distance to closest cage frame minimum 250mm.
	M16 threaded stud to protrude max 60mm (minimum 150mm embedment).
	Davit base set level: + - 2 degrees. Any gap under base packed with non-shrink grout.
Undercut wall mount base installation 	Concrete slab minimum 32MPa.
	Wall thickness minimum 200mm.
	Edge distance to closest anchorage minimum 250mm.
	Qty 4 x M12 undercut anchors used.
	Anchor embedment minimum 80mm.
	Anchors proof load tested to 15kN for 3 minutes.
	Davit base set vertical: + - 2 degrees. Any gap under base packed with non-shrink grout.

Component	Installation criteria
Flush mount cast-in base installation 	Concrete slab minimum 32MPa.
	Slab thickness minimum 200mm.
	Edge distance to closest frame support minimum 250mm.
	Davit base set level: + - 2 degrees.
	Water ingress cap in place when not in use.
Epoxy adhesive flush mount base installation 	Concrete slab minimum 32MPa.
	Slab thickness min 200mm/OH510.1600, min 220mm/OH514 and min 300mm/OH520.
	Edge distance to anchor minimum 250mm.
	M16 SS stud minimum embedment: 120mm/OH510, 140mm/OH514 and 190mm/OH520.
	Stud anchors proof load tested to 15kN for 3 minutes.
	Davit base set level: + - 2 degrees.
Base certification label 	Base certification label attached with required install details.

SYSTEM MAINTENANCE

Must be read prior to checklist

1. The davit system needs to be checked and recertified by a Level 2 qualified rope access specialist or manufacturer certified 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. Any epoxy adhesive or friction fit anchorages are to be load tested as per manufacturer specifications.
3. Never clean using acids or other chemicals that could damage the system components.
4. Fixing and support structure suitability must be checked for damage or deterioration by a competent person.
5. Any signs of distortion or excessive load to the system must be inspected and reported by competent person.
6. The identification label must be completed confirming certification, maintenance and recertification of the system.
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.

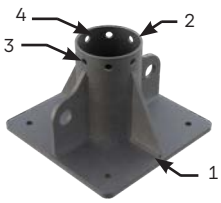
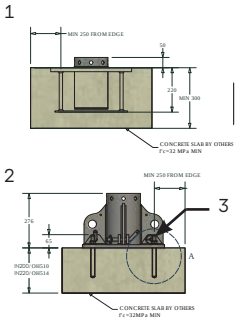
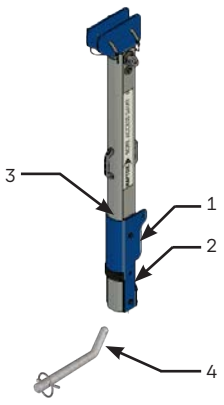
MAINTENANCE CHECKLIST

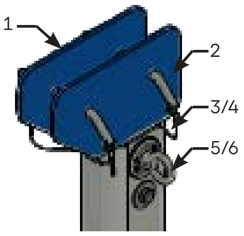
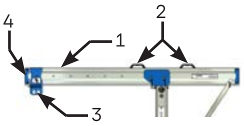
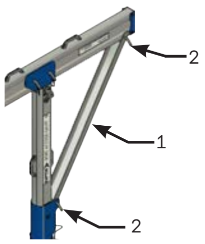
The checklist below outlines key checking criteria required to ensure the safe use of this system. Any item of concern not shown on the checklist must be noted on the maintenance report and brought to the attention of the workplace manager.

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.

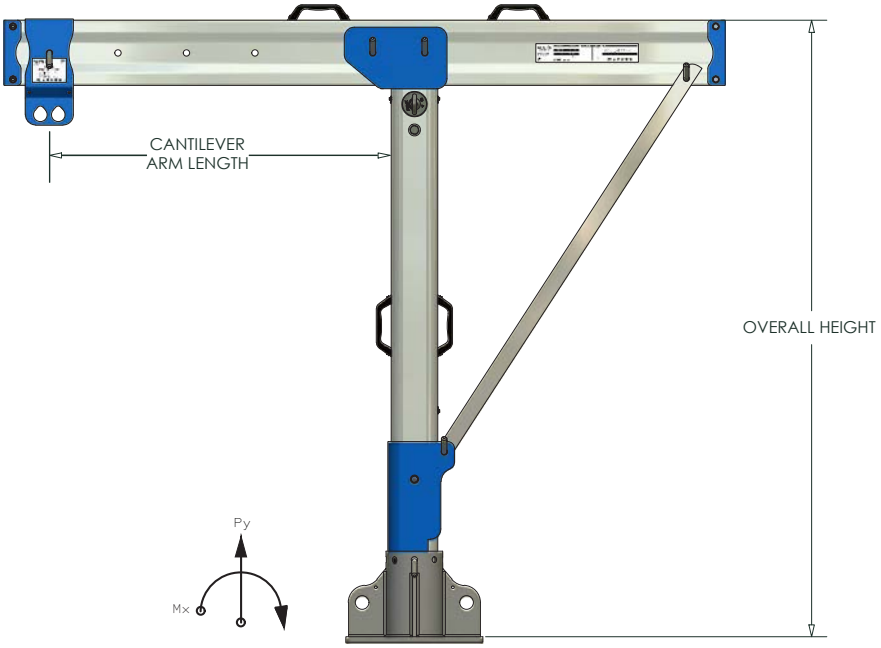
This system must be maintained by a competent height safety inspector trained in the safe use and maintenance of this system.

Component	Inspection criteria	Pass Y/N	Corrective action	Completion date
Davit base 	1. Inspect welded components and ensure no visible cracks or weld deterioration.			
	2. Inspect davit socket and ensure no deformation of tube socket due to overload.			
	3. Inspect locking pin location holes and ensure no hole elongation or deformation because of overload.			
	4. Inspect davit socket and ensure it is dry and free from debris. Make sure socket end cap is in place when davit not in use (cast-in base).			
Davit base fixing to structure 	1. If base fixing is cast-in no pull testing of M16 fixing is required.			
	2. If base fixings are friction fit or glued in, each fixing will require a pull test to 15kN and held for 3 minutes with no anchor movement.			
	3. Ensure all M16 fixings nuts are torqued to 60 - 80 Nm.			
	4. Inspect base for any signs of galvanised coating breakdown or evidence of corrosion developing.			
	5. Visually inspect substructure to which base is attached and ensure no breakdown, deformation or deterioration.			
Davit mast 	1. Inspect mast support bracket and ensure no signs of deformation or weld fatigue because of overload.			
	2. Inspect locking pin location hole and ensure no hole elongation or deformation because of overload.			
	3. Inspect mast and ensure no deformation damage because of overload.			
	4. Inspect all locking pin (6x) and ensure no signs of deformation or damage.			
	5. Check cable lanyards are secure and attachment to davit structure is secure.			
	6. Check locking in latch is operating correctly and no chance of pin removal once inserted and locked.			

Component	Inspection criteria	Pass Y/N	Corrective action	Completion date
Davit mast 	1. Inspect davit boom connection bracket ensuring no signs of deformation or weld fatigue as a result of overload.			
	2. Inspect locking pin location holes and ensure no hole elongation or deformation because of overload.			
	3. Inspect locking pins and ensure no signs of deformation or damage because of overload.			
	4. Inspect locking pin attachment lanyard and ensure fixing to mast and locking pin is secure.			
	5. Inspect the transfer/rescue anchors and ensure no sign of deformation or damage because of overload.			
	6. Ensure transfer/rescue anchors are correctly tensioned.			
Davit boom 	1. Inspect boom for deformation or damage due to overload.			
	2. Inspect locking pin location holes and ensure no hole elongation or deformation due to overload.			
	3. Inspect primary rigging anchor and ensure no deformation or excessive wear to rigging connection points.			
	4. Check boom ends and ensure fixings to boom are secure.			
Davit rear support brace 	1. Inspect brace for deformation or damage due to overload.			
	2. Inspect locking pin location holes and ensure no hole elongation or deformation because of overload.			
Davit recertification plate 	1. Ensure all text on plate is clearly visible.			
	2. Ensure installer details and install date is recorded.			
	3. Ensure recertification details and any system limitations are clearly visible.			
	4. Ensure next recertification date is clearly shown.			

DAVIT BASE REACTION LOADS

Whilst diagrams indicate minimum edge distances and concrete thickness, in some applications these dimensions may be varied if the building engineer uses the reaction loads shown in the table below and designs these loads into the building structure. Any reduction in edge distance or concrete thickness must be verified by a structural engineer.



Reaction load schedule (1.2G + Ultimate Q)

Overall height (mm)	Cantilever length (mm)	Forces at A (kN)	Moment at A (kN.m)
1600	800	13.00 Py	11.17 Mx
1600	1000	13.01 Py	13.66 Mx
1600	1200	13.03 Py	16.15 Mx
1600	1400	13.04 Py	18.65 Mx
1600	1600	13.30 Py	19.30 Mx
1600	1800	13.30 Py	21.70 Mx
1600	2000	13.30 Py	24.10 Mx
2200	800	13.05 Py	11.16 Mx
2200	1000	13.06 Py	13.66 Mx
2200	1200	13.08 Py	16.15 Mx
2200	1400	13.09 Py	18.65 Mx
2600	1000	13.50 Py	13.65 Mx
2600	1400	13.50 Py	18.65 Mx

Due to the extensive loads the davit will exert on the base attachment, structural suitability of the substructure must be verified by structural engineer prior to installation of the system.

TECHNICAL STATEMENT

Components

Criteria	Data
Base	Mild steel grade 350 (galvanised)
Mast	Aluminium grade 6005A-T5 (anodised)
Boom	Aluminium grade 6005A-T5 (anodised)
Boom mount	Aluminium grade 6005A-T5 (powder coated)
Mast support bracket	Steel grade 350 (powder coated)
Support brace	Aluminium grade 6106A-T6
End caps	Stainless steel grade 304 (powder coated)
Rigging anchor	Stainless steel grade 304 (powder coated)
Locking pins	Mild steel grade 350 (galvanised)
Carry handle	Nylon GF15

Loading

Criteria	Data	Note
Ultimate load	12kN (+ rescue)	As per requirements of AS/NZS1891.4
Hoist load	400kg	If davit is used for hoisting loads, max dynamic load is 400kg - refer to AS1418.13
Maximum height	2200mm	Greater heights may be achievable. To be discussed with Kattsafe.
Cantilever length	1400mm	Greater cantilever may be achievable. To be discussed with Kattsafe.
Boom angle of rotation	360° - lockable with pin at 45° increments	
Wind loading	Not to use under severe wind conditions greater than 37kph/23mph (IRATA)	

Concrete requirements - floor mount, wall mount and low profile bases

Criteria	Data	Note
Concrete grade	F'c = 32 MPa	
Concrete thickness	200/220mm 300mm (Cast-in davit base)	Concrete thickness varies with different anchor type/davit type. Refer to the fastener details for other types of anchors.
Bolt diameter	16mm	
Base fixing stud	120/140/190mm	Varies with davit type OH510-120mm OH514-140mm

Fastener details - Hilti

Criteria	Data	Note
SD937 Stainless Steel M16 Stud	Bolt size = Ø16 mm SD937.180 - 180mm SD937.200 - 200mm SD937.250 - 250mm	
Cast-in cage bolt kit	16mm grade 350 steel with 150mm thread	
Cast-in cage bolt kit - OH520	16mm grade AZ70 SS Thread	
Hilti HMU-PF M12 x 80/35 Undercut Anchor	Used for attaching the OH521 wall mount davit base to concrete wall.	Sleeves must be used with M12 fixings (hole diameter 18mm)

TECHNICAL SPECIFICATION

Davit

OH500

The Kattsafe davit is an industrial use, aluminum construction system with rescue and adjustable rigging anchor for access over non load-bearing areas for window cleaning and facade maintenance. System design, supply, layout, installation and certification by a Kattsafe approved installer, as per the manufacturer's installation instructions and current standards.

Materials

- Arm and mast: manufactured from high grade structural aluminium.
- Connection brackets, end caps, supports: powder coated stainless steel.
- Davit base: G350 grade steel, galvanised finish.

Dimensions

Refer to pages 6-8

Substructure requirements

- Minimum concrete thickness
  - OH510, Adhesive fix: 200mm
  - OH514, Adhesive fix: 220mm
  - OH520: 190mm
  - AP160 Cast-in cage bolt kit: 220mm
- OH522 Flush mount cast-in base: 300mm
- Minimum concrete strength: minimum 32 mPa
- Concrete may need to be verified by engineer regarding reaction loads
- Minimum 250mm edge distance

Fixings (refer to installation manual)

Epoxy adhesive

- Stainless or HDG M16 x 180mm allthread stud fixing for 1000mm reach OH510 davit range, min 120mm embedment. Requires 18mm hole size.
- Stainless or HDG M16 x 200mm allthread stud fixing for 1000mm reach OH514 davit range, min 140mm embedment. Requires 18mm hole size.
- Recommended epoxy adhesive - Hilti HIT RE-500

Cast-in

- 300mm x 300mm cage bolt kit
- Minimum concrete thickness: 200/300mm*
- Minimum 150mm embedment

(Refer installation manual.) *Concrete specifications depends on davit type.

Rating

- 12kN single person use + rescue
- 400kg safe working load

Compliance

Kattsafe's davit is designed to conform with requirements of the Australian & New Zealand Standards AS/NZS 5532:2013 AS/NZS/ISO22846, AS/NZS1891 and relevant codes of practices and guidelines.

Testing

Testing and performance based on requirements of Australian Standard AS/NZS 1891 and AS/NZS 5532.

- Dynamic load test: 15kN
- Static load test: 12kN

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.

Product brochure
Davits

Installation manual
Davits

Operations manual
Davits

QMS Certification
ISO 9001:2015

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

Kattsafe

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and fall protection

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