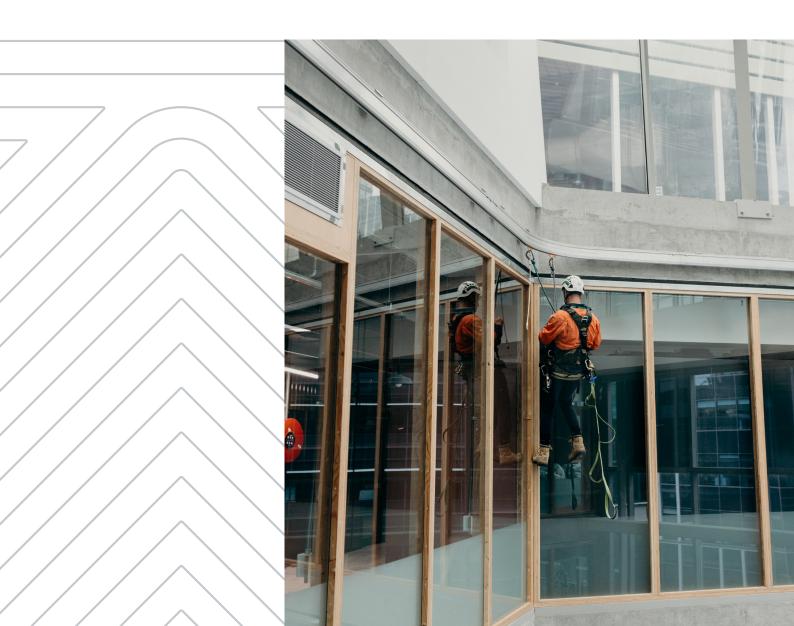


INSTALLATION MANUAL

RIGID 130 RAIL



Kattsafe fixed rigid rail provides efficient fall arrest and rope access for multiple users accessing façades, roofs and machinery for maintenance.



Product brochure

Rigid rails



Installation manual

Rigid 80 rail



Installation manual

Rigid 130 rail



Operation manual

Rigid rails - fall arrest



Operation manual

Rigid rails - rope access

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.

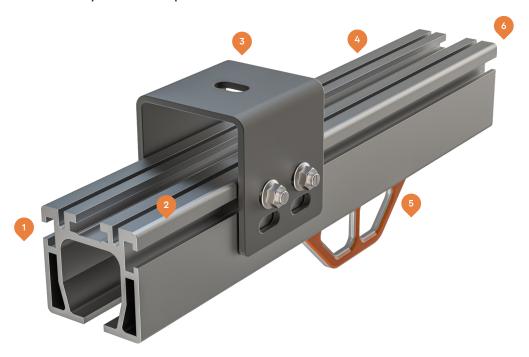
For more information please contact Kattsafe. kattsafe.com.au

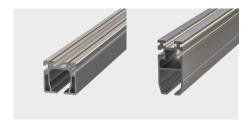
- 1 Anchor points
- 2 Static lines
- 3 Rigid rail
- 4 Davits and needles
- 5 Guardrail and walkway
- 6 Skylight protectors
- 7 Rung ladders
- 8 Access hatches
- 9 Platforms and stairs
- 10 Step ladders
- 11 HVAC platforms



RIGID RAILS

Rigid rails are a proprietary fall arrest and rope access system providing uninterrupted mobility for the operator.





Size options

Available in two different sizes and capabilities to suit many different requirements.



High strength construction

Designed for increased point load and minimum visual impact with a complete aluminium construction.



Mounting options

Designed to be used in multiple different areas, rigid rails have many different mounting options to suit any situation or requirement.



Large spanning capabilities

Designed to span up to 6m, the strengthened design provides uninterrupted, smooth lateral mobility for the users.



Multiple user operation

Suitable for multiple operators at any one time making it an efficient system for facade and atrium access, cleaning and maintenance.



Bends and curves

Designed to work along side corners and irregular curves in a building's design to provide effective rope access and fall protection.

RIGID 130 RAIL CONFIGURATIONS

OH1 Rigid 130 rail - purlin mount in-line



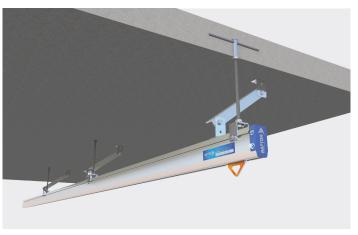
OH2 Rigid 130 rail - purlin mount across



OH3 Rigid 130 rail - flush mount



OH4 Rigid 130 rail - suspended mount



OH5 Rigid 130 rail - concrete ceiling mount



OH6 Rigid 130 rail - metal deck mount



OH7 Rigid 130 rail - side/floor mount 100mm



OH8 Rigid 130 rail - side/floor mount 200mm



RIGID 130 RAIL COMPONENTS

OH255 Rigid 130 rail

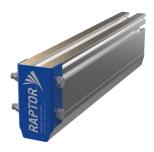


OH262 Rigid 130 rail splice joiner bar kit

OH263 Rigid 130 rail t-joiner kit



OH265 Rigid 130 rail end-stop bracket



TOOLS AND EQUIPMENT

Cordless drill

10mm metal drill bit

Impact wrench







15mm socket and wrench

Spirit level

Drop saw







Tape measure

Roof marking pen





INSTALLATION REQUIREMENTS

Must be read prior to installation

- This system must only be installed by competent persons trained in the selection, use and maintenance of fall arrest systems and hold a current Kattsafe approved installer certificate.
- 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 systems and equipment.
- 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 suitability of connection to structure.
- 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.
- 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.
- Complete all necessary WHS documentation, including a Job Safety Analysis and Work Method Statement and obtain consent from responsible person in workplace prior to commencement of work.
- Installers must be authorised and accredited by Kattsafe and possess valid industry licenses, be appropriately trained, and comply with all relevant WHS legislation prior to installation of this product.
- Do not modify or remove any element of the support structure without prior authorisation by a qualified engineer.
- 9. Any re-routing of electrical and/or other services must be carried out by qualified or authorised personnel.
- Appropriate temporary access and safety equipment must be used during installation, such as platform ladders or scaffolding and fall protection anchorage points.
- 11. In case of emergency access and fall arrest 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 system 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
 - Decorative coatings and coverings must be removed to ensure correct evaluation of structure prior to attachment of system
- 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. Only to be used by competent persons with proof of training by a Registered Training Organisation (RTO) in the use of height safety and rope access systems.
- Harness gear is susceptible to deterioration when exposed to chemicals or hazardous environments and must be approved by the manufacturer for use in these applications.
- The rigid 130 rail is suitable for up to 4 persons per span. (See span table).
- Two attachment points are required per person. Multiple pairs of trolleys are required for additional users. For OH261 trolley, one is required per operator and for OH260 trolley, two are required per operator.
- 5. Operators of this system must be connected via certified harness gear, carabiners and abseil rope lines.
- The system must be set up so that the operator's lanyard does not exceed 20° causing excessive tension loading to the system.
- 7. Do not tamper with system components.
- 8. This system is not to be used for tethering or lifting machinery or equipment.
- The safety system must be recertified by a competent height safety inspector as recommended:
 - Non corrosive/mild environment 12 monthly
 - Corrosive/harsh environment 6 monthly (more frequent inspection may be required).



Kattsafe recommends that persons using 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

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.

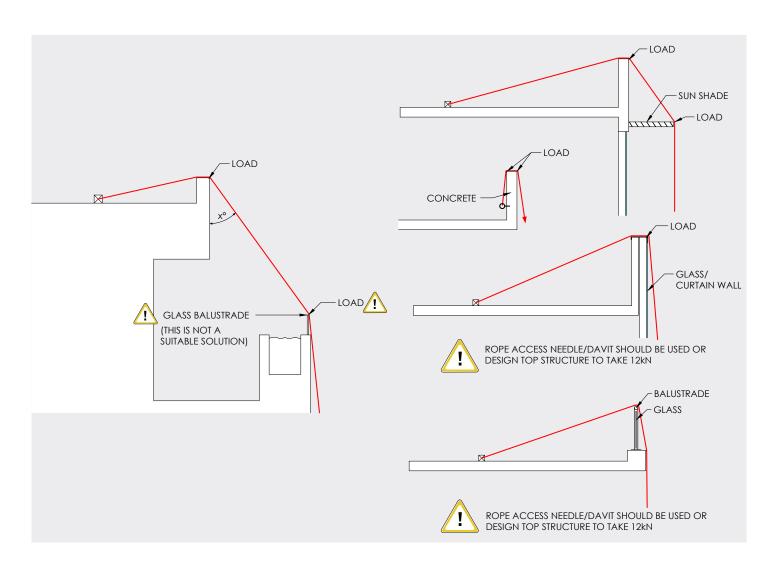


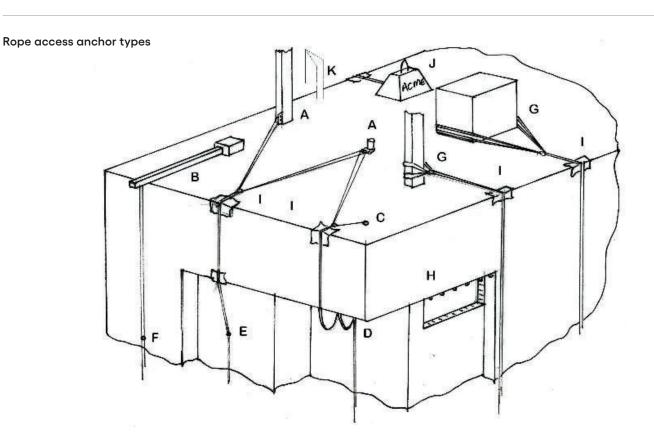


Diagram not to scale. For illustration purposes only.

Rope access system design limitations

- 1. Design and installation of rope access systems must be in accordance with the requirements of AS/NZS 4488.
- 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.
- 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 traffic-able to allow operator to stand on whilst traversing past the canopy edge.
- Any structural components required for rope access loads (12kN) will need to be designed and approved by a qualified engineer.
- 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.
- 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.

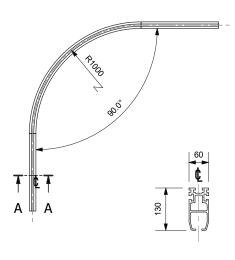


REF	Anchor type	Ultimate load (kN)	Comments
А	Primary anchor	12	Design for 15kN where possible to also suit fall arrest.
В	Counterweight anchor (sometimes known as a 'needle')	12	
С	Diversion anchor	12	Assists in varying the lateral positioning of the working rope line.
D	Re-anchor (sometimes called 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.
Н	Aid route anchor		
ı	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.

RIGID 130 RAIL BENDS

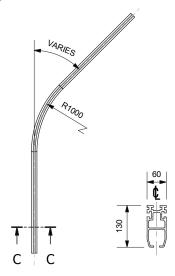
OH256.90

Overhead rigid rail corner - 90° x 1000mm radius



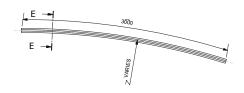
OH256V

Overhead rigid rail bend - varying degree x 1000mm radius

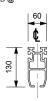


OH256C.3000

Overhead rigid rail curve - varying radius - 3000mm

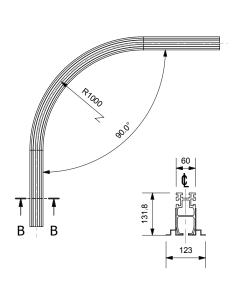


TO SUIT RADIUS .9m TO 55m. NOTE: IF GROOVE IS REQUIRED @ RADIUS ≥ 22m THEN ADD OH259 (GROOVE SPRING CURVE ON SITE). IF GROOVE IS REQUIRED @ RAD. ≤ 22m USE OH258



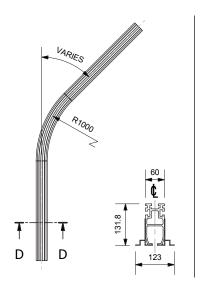
OH258.90

Overhead rigid rail corner with groove extension corner kit - 90° x 1000mm radius



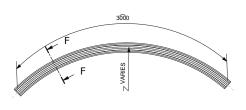
OH258V

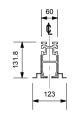
Overhead rigid rail bend with groove extension kit - varying degree x 1000mm radius



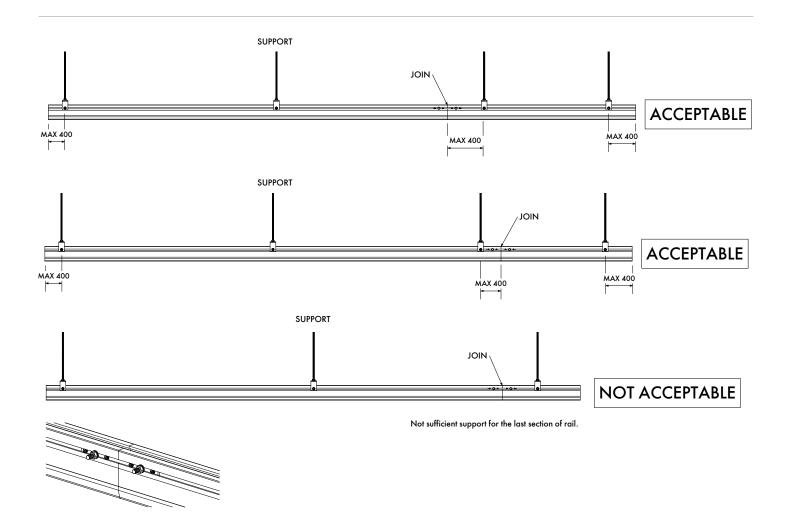
OH258C.3000

Overhead rigid rail curve with groove extension kit - varying radius - 3000mm



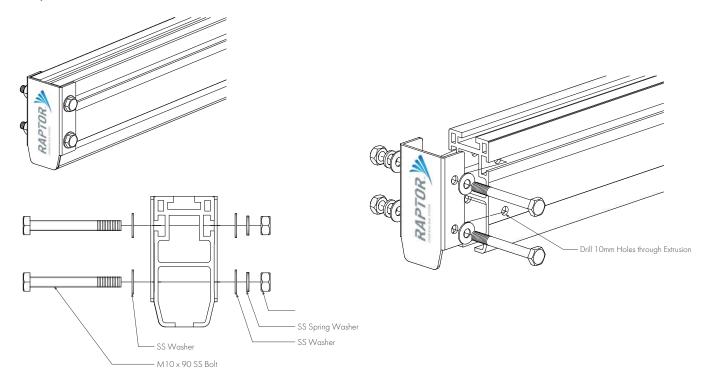


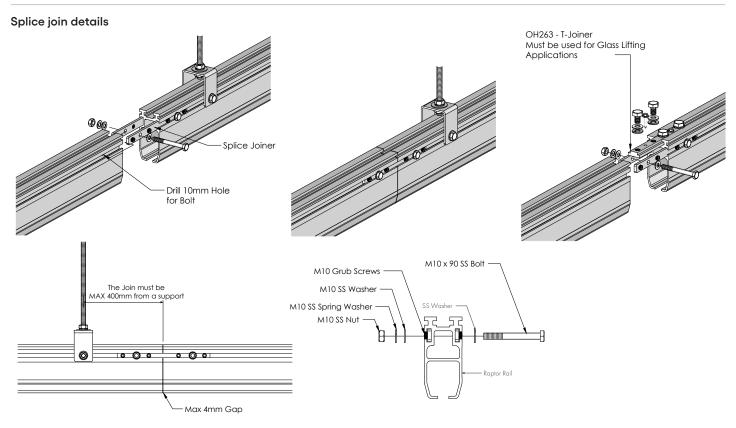
SUPPORT AND JOINING CRITERIA



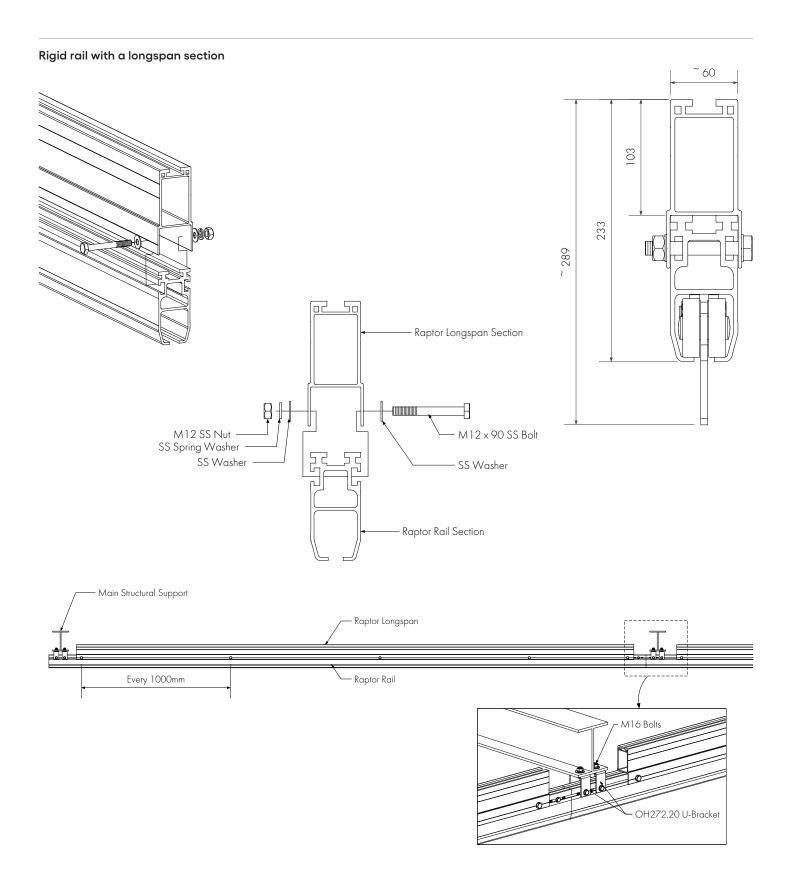
SYSTEM ASSEMBLY

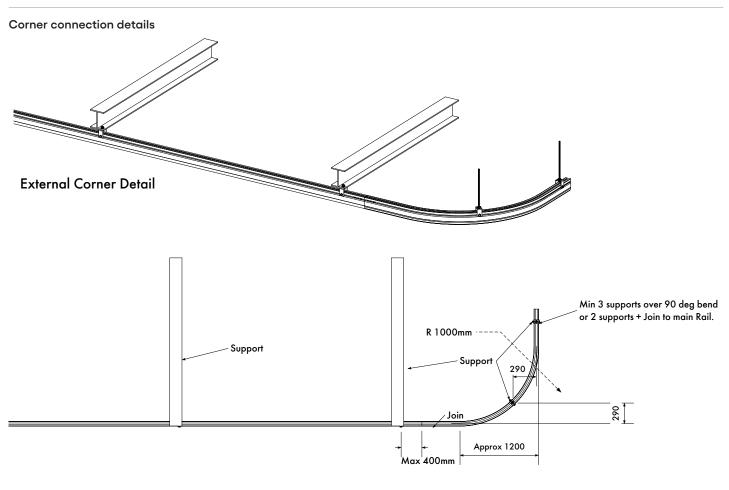
End stop details

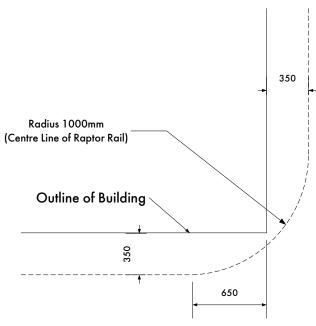




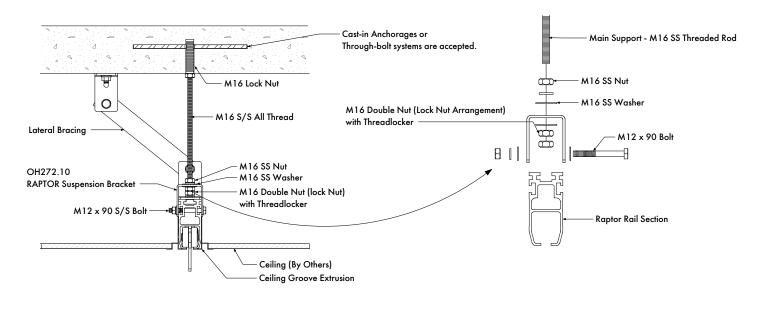
RIGID 130 RAIL INSTALLATION PROCEDURE

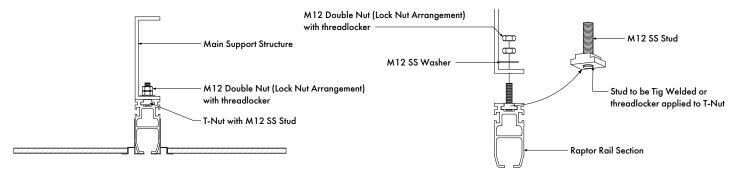






Rigid rail connections - concealed fastener installation





Suggested connection details when maintenance to fasteners is not possible after initial installation.

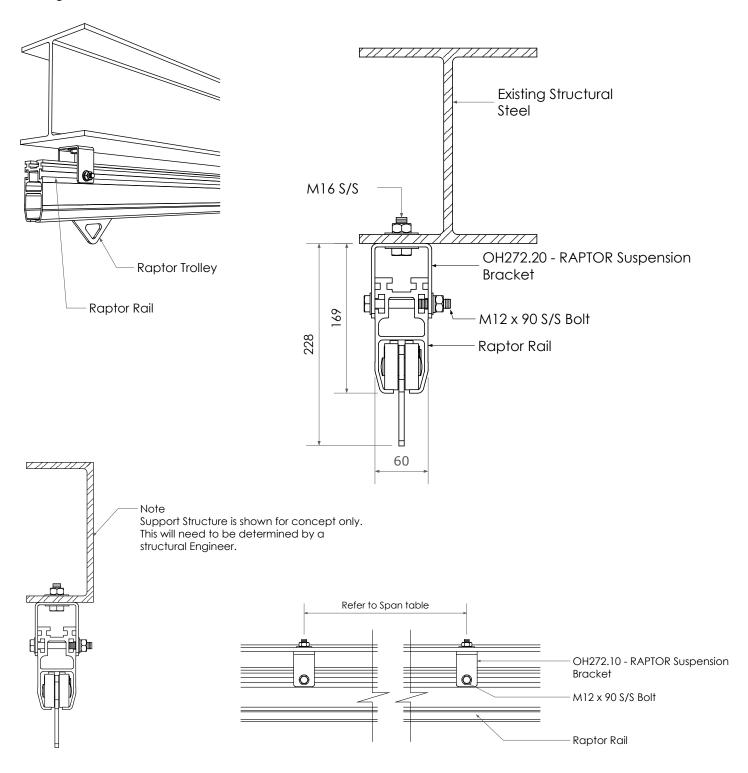
Min requirements

- All fasteners to have threadlocker applied (Loctite 277 recommended).
- Photographic evidence of all connection details must be taken and included in ops manual for future reference.
- Supports to be maximum 2000mm apart.
- 600 x 600 inspection hatches should be provided.

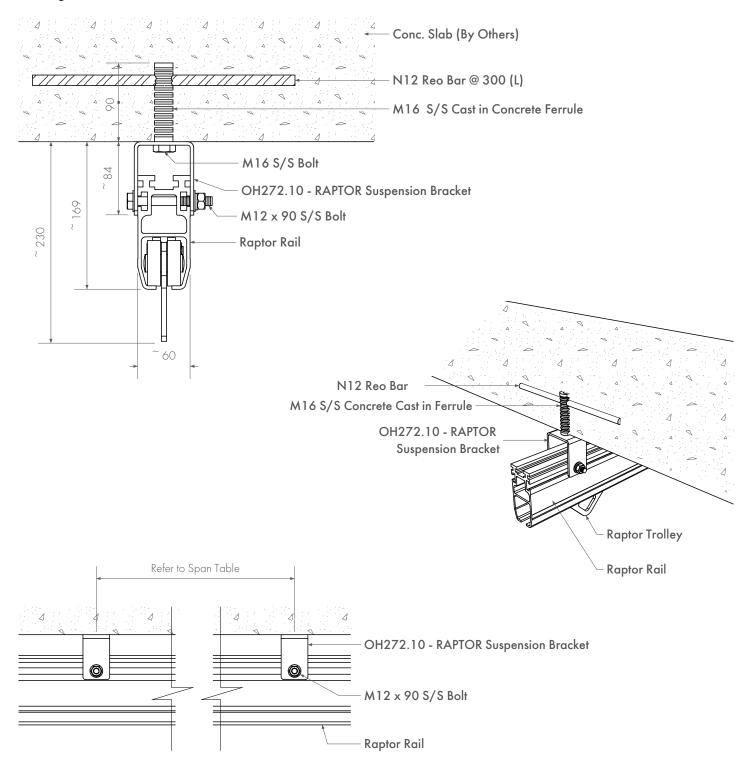
Suggested torque settings for bolts

- M16 80Nm
- M12 30Nm

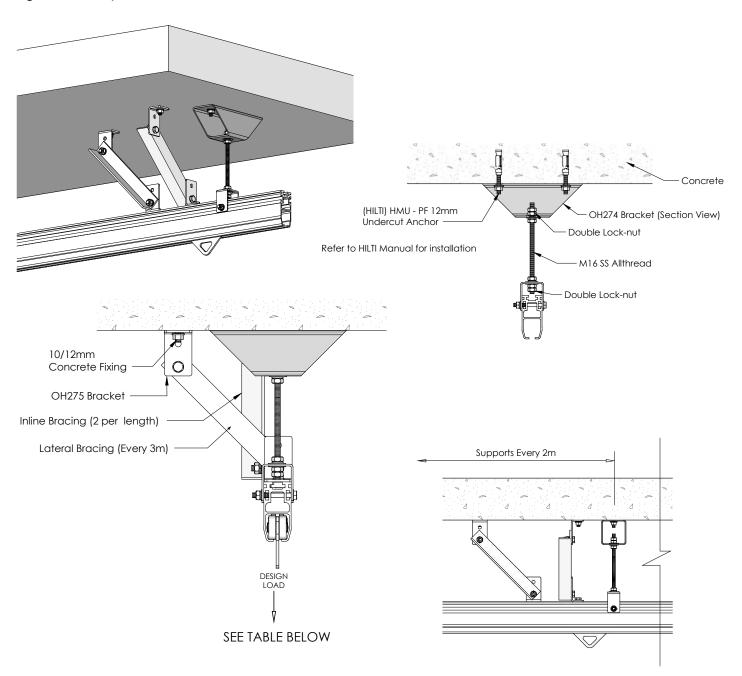
OH3 Rigid 130 rail - flush mount installation



OH3 Rigid 130 rail - flush mount installation



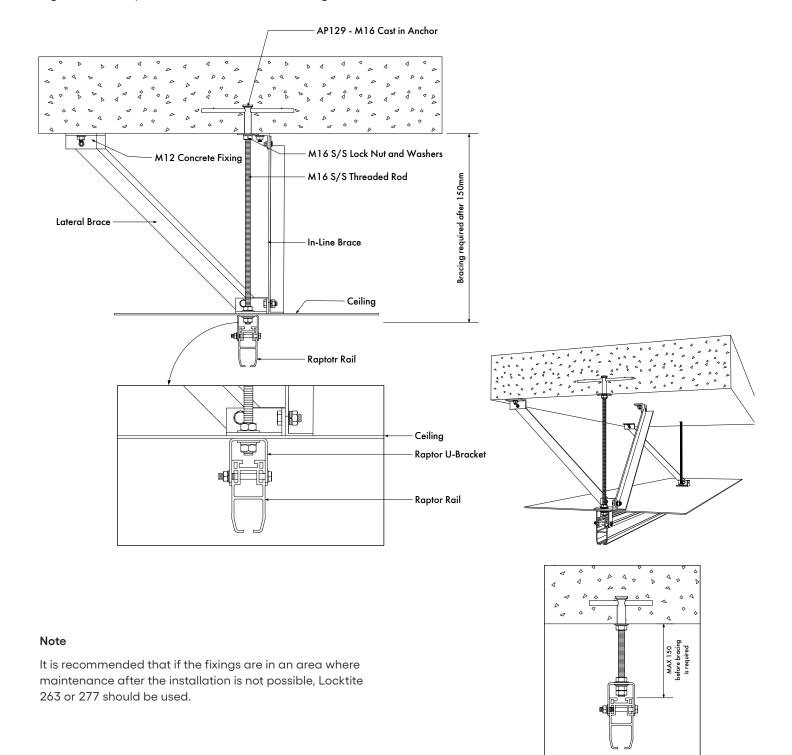
Rigid 130 rail suspended from concrete soffit installation



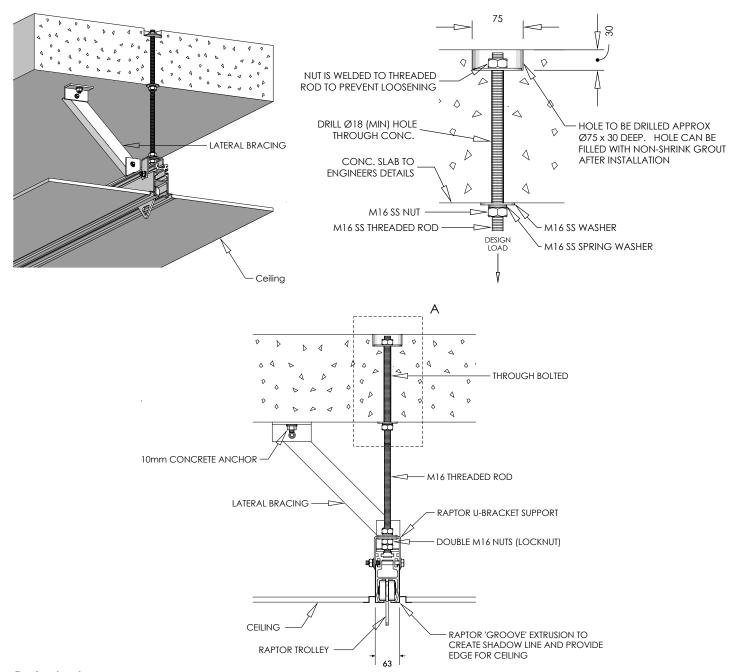
Design load

	One user (kN)	Two users (kN)
Abseil/rope access	12	18
Fall arrest	15	21

Rigid 130 rail suspended from concrete with ceiling



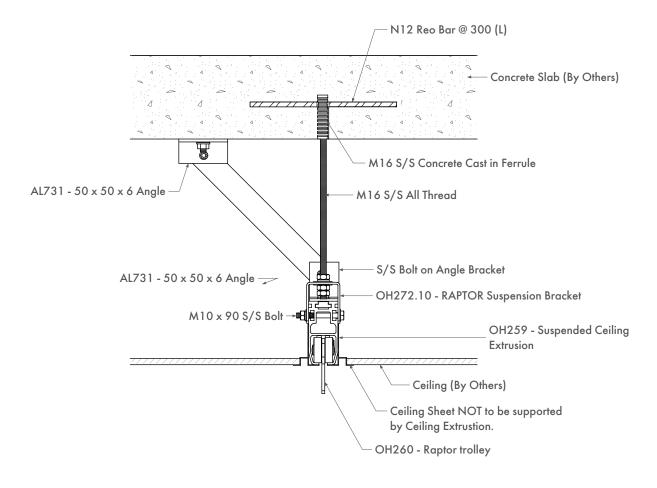
Rigid 130 rail concrete through bolted - suspended through soffit (groove ceiling extrusion)

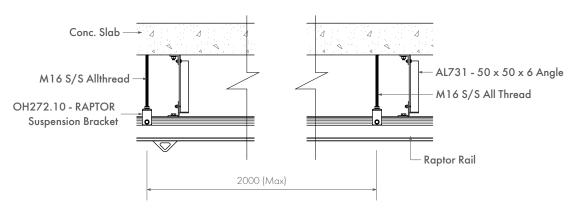


Design load

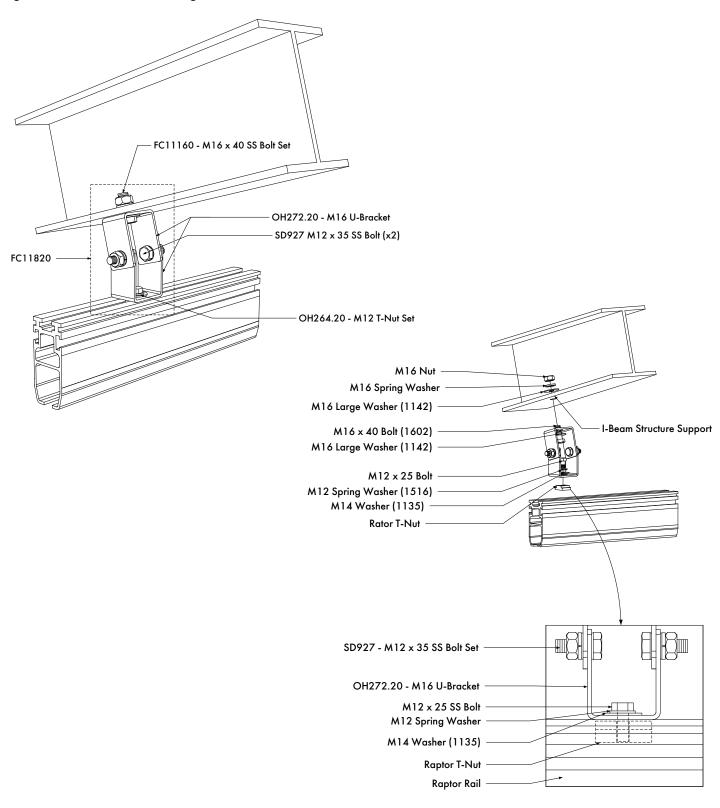
	One user (kN)	Two users (kN)
Abseil/rope access	12	18
Fall arrest	15	21

OH4 Rigid 130 rail - suspended mount installation

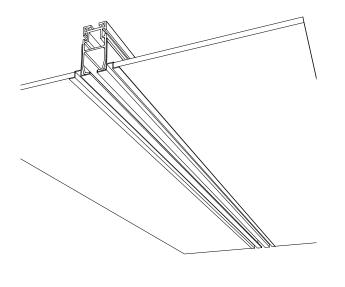


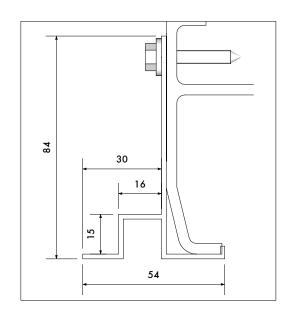


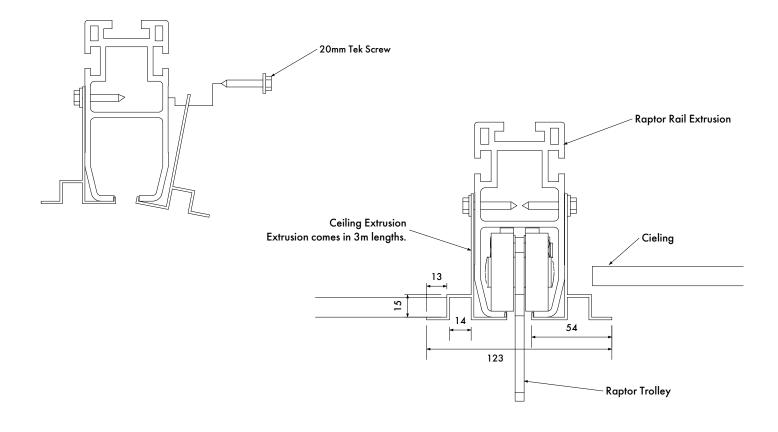
Rigid 130 rail connected to an angled steel beam installation



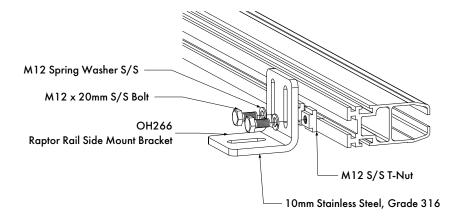
Rigid 130 rail with ceiling extrusion

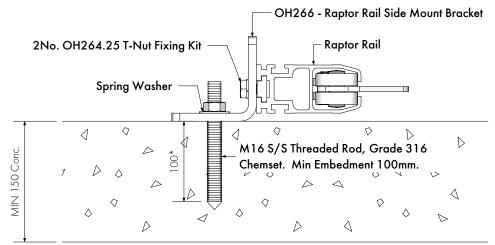


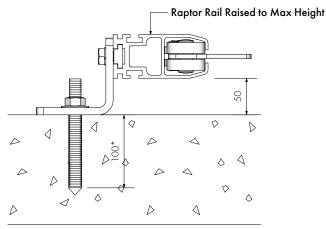




OH7 Rigid 130 rail - side/floor mount 100mm installation

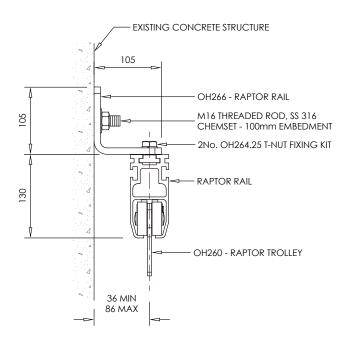


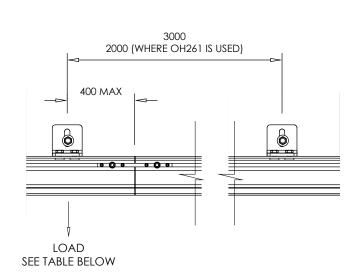




*NOTE: See Hilti Fixing Details

Rigid 130 rail - side/floor concrete mount installation

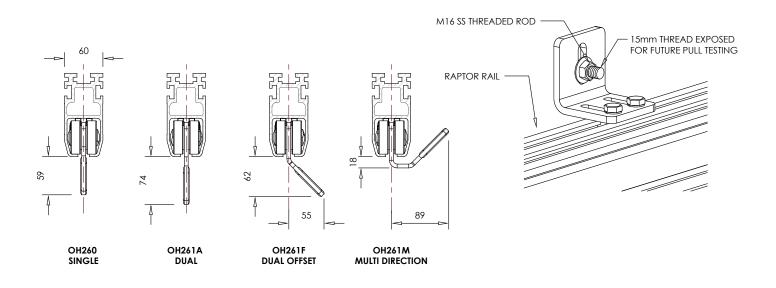




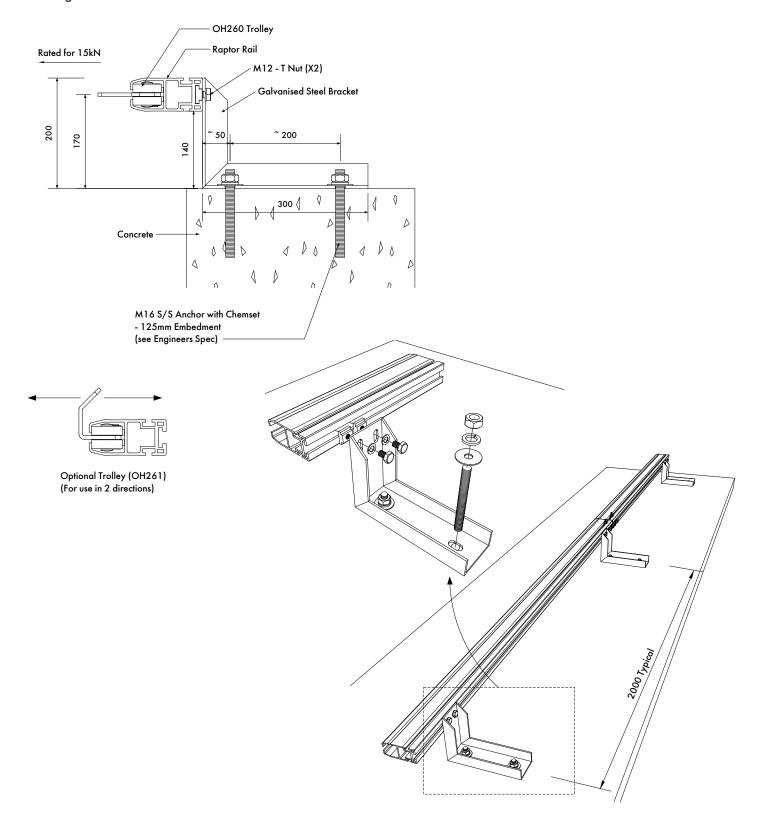
Design load

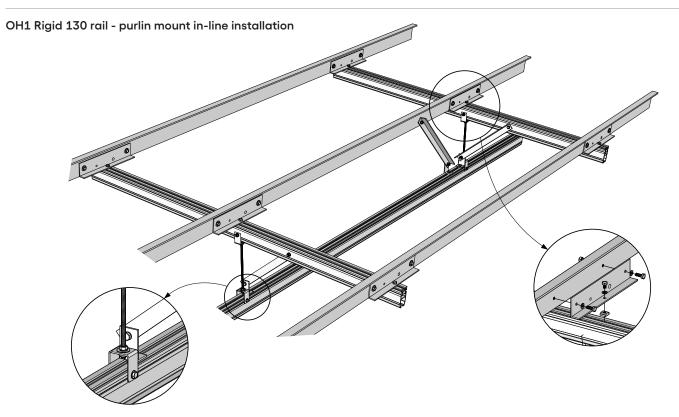
	Abseil load (kN)	Fall arrest load (kN)	Preferred span (mm)	Max span (mm)
One user*	12	15	3000	4500
Two users	18	21	3000	3200

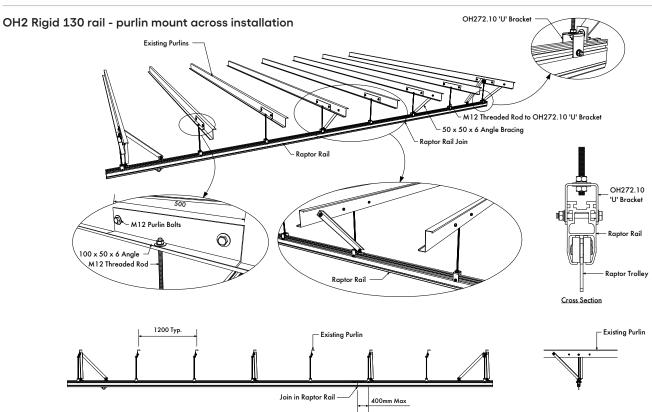
^{*}Design loads should always allow for two users where possible

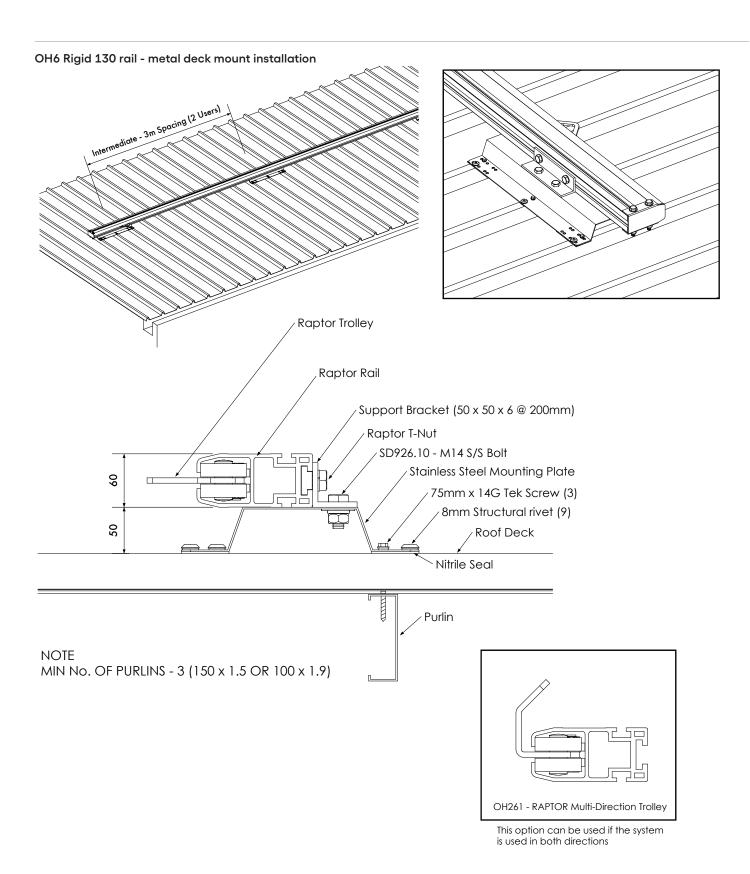


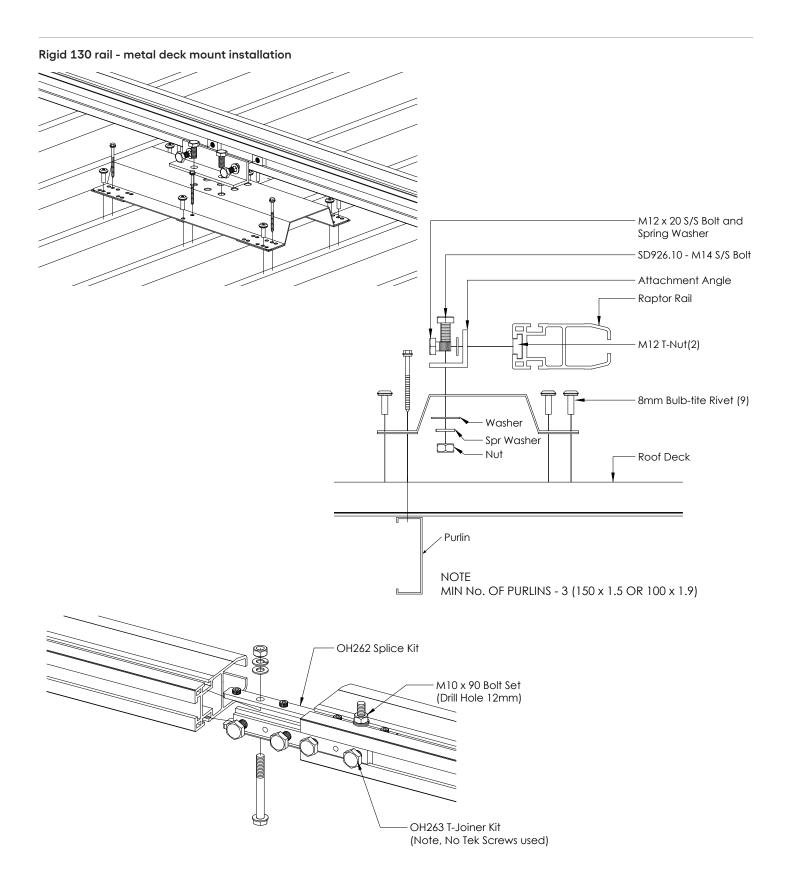
OH8 Rigid 130 rail - side/floor mount 200mm installation

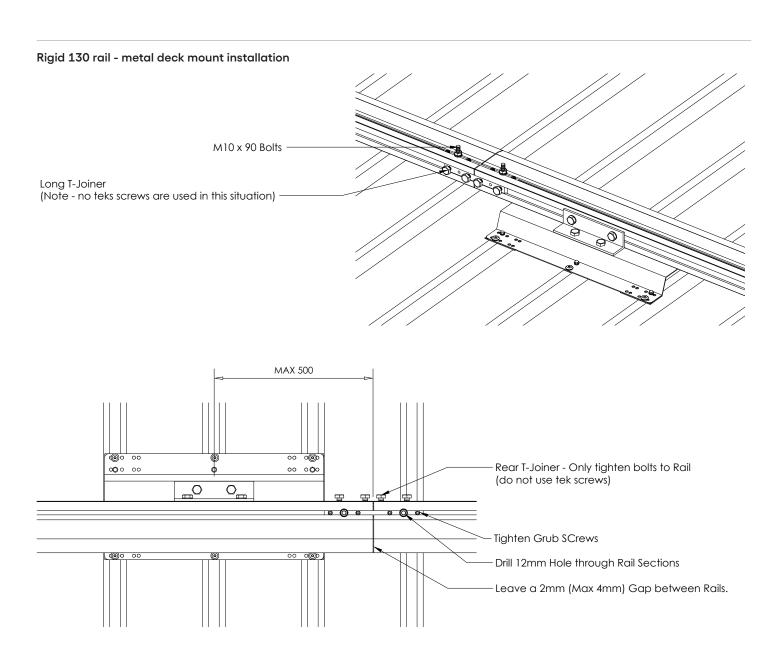












SYSTEM MAINTENANCE

Must be read prior to checklist

- This system needs to be checked and recertified by a qualified height safety inspector every 12 months for non corrosive environments or 6 monthly for corrosive or harsh environments. (To be determined by competent person depending on severity of surrounding conditions.)
- 2. Never clean using acids or other chemicals that could damage the system components.
- The identification certification label must be completed confirming installation, certification 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 the person in control of the workplace and relevant corrective action undertaken.
- 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.
- 7. Where the rail system is mounted into concrete using friction fit anchorages and will be loaded in tension during operation, a load test will need to be carried out, to half the design load of the system.

Installation and recertification criteria for concealed/suspended rigid rail

Support structure

- Supports max 2000mm spacing
- Cast in type anchorage or,
- M12 HDA or undercut type anchors (2 per support)
- Min M16 All-thread droppers

Installation criteria

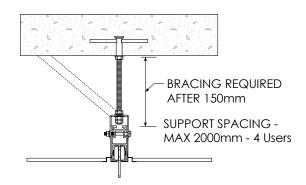
- Main dropper must have lock nuts (2 nuts)
- All fixings must have thread-locker applied
- Pull test HDA/undercut anchors (take photo of each test for future reference)

Bracing

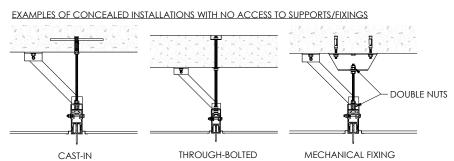
- Bracing is as per standard specs (no thread locker required)

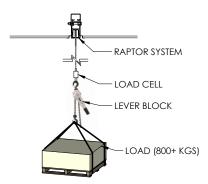
Certification/hand-over

- All fixings and supports must be photographed for evidence of correct installation
- HDA and undercut anchors must be pull tested (only at the time of installation, no further testing on individual anchors is required.) Photographic evidence of pull testing and records are important for hand-over manual documents.



Fixing type	Code	Support spans (mm)	Pull testing	Other installation criteria	Ongoing inspections
Cast-in	SD953	2000	Not required	– Double (lock) nuts	- Check for signs of deformation or wear in the rail
Through bolted		2000	Not required	required - All fixings to have	– If no install details/photos, load rail to 750kgs every 3m,
Mechanical - Undercut or HDA	SD960	2000	At time of installation only	thread locker applied - Photographic evidence of the above	every 3 yrs*. – Use inspection camera if possible





RAIL MUST BE LOADED TO 750KGS FOR 3 MINS. THE IDEA IS THAT THE LOAD MUST NOT BE LIFTED BUT RATHER CHECK FOR A DECREASE IN LOAD ON THE LOAD CELL TO TELL IF THE SYSTEM IS 'FAILING'

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.

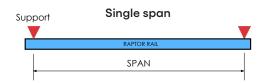


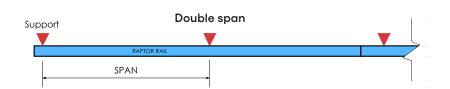
This system must be maintained by a competent height safety inspector trained in the safe use and maintenance of this system.

Component	.Inspection criteria	Pass Y/N	Corrective action	Completion date
Trolley	Check all bearing axles and middle bearing bolts are secure.			
	There must be no deformation in the connection plate.			
000	Make sure bearings do not show signs of wear.			
	Trolley must run freely in the track.			
End stop	Check all bolts/nuts are secure (18Nm).			
RAPTOR	Ensure there is no sign of damage to the end stop.			
Suspension components	Check all bolts/nuts are secure (18Nm).			
	Check for any signs of structure break down or damage.			
U-bracket	Check all bolts/nuts are secure (18Nm).			
	Check for any signs of deformation in the u-bracket.			
Splice join	Check all bolts/nuts/ grub screws are secure (18Nm).			
	Check for any signs of deformation in the spice join.			
	Max permissible gap between rail joins - 4mm.			

Component	Inspection criteria	Pass Y/N	Corrective action	Completion date
T-nut	Check all bolts/ t-nuts are secure (18Nm for M10 bolts 25Nm for M12).			
Rail	Check bearing travel flanges on the rail are not bent/damaged and free from grime.			
	Max opening between travel flanges - 19mm.			
	Check for signs of excessive load or damage to the rail.			
Deck mount bracket	Check minimum of 3 x 14kg tek screws into roof structure.			
	Check minimum of 9 x 8mm bulb type rivets into roof deck.			
	Check minimum 2 x M14 bolt sets connecting bracket to plate.			
Lanyard 20° Max	Check angle of lanyard does not exceed 20°, causing excessive tension loading.			

SPAN TABLE





Rigid 130 rail



Fall arrest loads					
No. of users per span	Max span - single span (mm)	Max span - double span (mm)	Support structure design load (kN)		
1	4000	4400	15		
2	3200	3600	21		
3	2500	2900	27		

Rope access loads				
Max span - single span (mm)	Max span - double span (mm)	Support structure design load (kN)		
4200	4600	12		
3400	3800	18		
2700	3100	24		

Rigid 130 rail with longspan

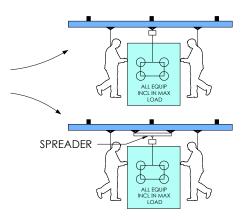


Fall arrest loads					
No. of users per span	Max span - single span (mm)	Max span - double span (mm)	Support structure design load (kN)		
1	6000	N/A	15		
2	5500	N/A	21		
3	4800	N/A	27		

Rigid 130 rail (Lifting loads)



Glass lifting application					
No. of users per span	Max span (mm)	Max live load (kg)	Support structure design load (kN)		
2	2000	490	30		
2	2000	780 (2 x trolley with spreader)	24		



TECHNICAL INFORMATION

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/NZS 1891.4:2009 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

Rigid 130 rail

OH250

Kattsafe rigid rail is designed for fall arrest, rope access and materials lifting applications in industrial and commercial environments used by persons working at heights. The system is to be designed, installed and used by Kattsafe approved partners only. The system is suitable to be connected to steel, concrete and other load bearing structures as approved by structural engineer.

Materials

- Rail: profiled hi-tensile aluminium
- Trolley: stainless steel including 6 sealed bearings
- Mounting brackets: profiled stainless and/or aluminium

Dimensions

60 x 130 mm (excluding trolley)

Weight

4.5kg/per linear metre of rail section

Fixings (refer to installation manual)

- Steel fixing: M12 bolt or threaded stud
- Concrete fixings: M12 mechanical concrete anchor
- Brackets to rail fixing: M12 mechanical concrete anchor

Note: Fixings may vary depending on application.

Rating

- See span tables.
- Single person use: 180kg per trolley (user/equipment).
- Maximum horizontal pitch for safe use: 3°.
- Support structure integrity, suitability and fixing method to be assessed and determined by a structural engineer prior to installation.

Compliance

Kattsafe rigid rail is designed to conform with requirements of the Australian and New Zealand Standards AS/NZS 5532:2013, AS/NZS/ISO22846, AS/NZS1891 and AS1418.13 and relevant codes of practices and guidelines.

Testing

Testing and performance based on requirements of Australian and New Zealand Standards AS/NZS 1891, AS/NZS 5532, AS NZS1891.2.2001 and AS/NZS1891.1:2009.

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 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

Rigid rails



Installation manual

Rigid 80 rail



Installation manual

Rigid 130 rail



Operation manual

Rigid rail - rope access



Operation manual

Rigid rail - fall arrest



QMS Certification

ISO 9001:2015

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



Height access and fall protection

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