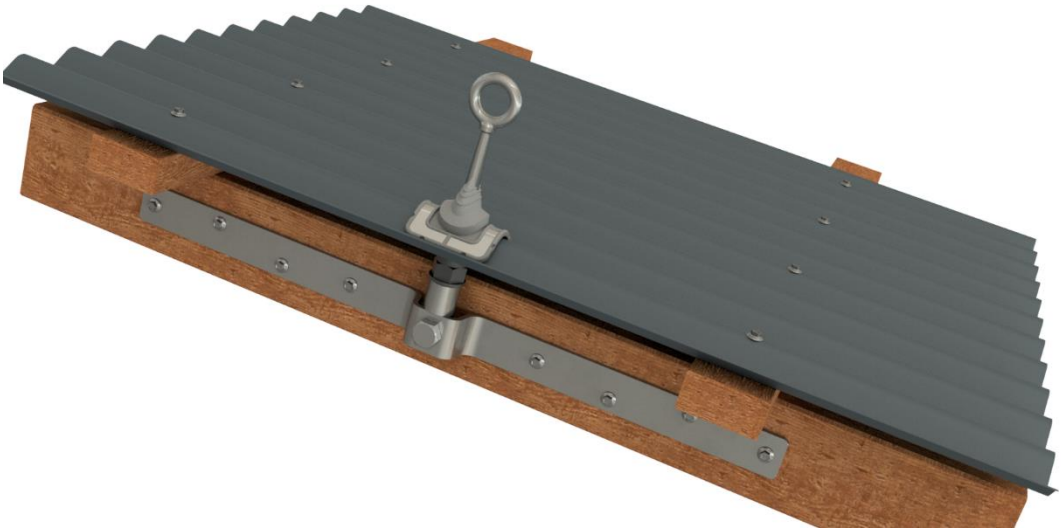
INSTALLATION HANDBOOK
RAFTERLINK ANCHORS

SafetyLink is an innovative anchor company achieving success and keeping you safe whilst working at heights.

- ROOF ANCHORS
- HORIZONTAL LIFELINES
- PERMANENT LADDERS
- LADDER STABILISERS
- TEMPORARY ANCHOR
- WALKWAY & GUARDRAIL
- X-RAIL - HORIZONTAL RAIL



Read entire handbook before installing SafetyLink products. All products must be installed in accordance with SafetyLink's installation handbook, using only products supplied by SafetyLink Pty Ltd. Failure to follow all warnings and instructions may result in a serious injury or death.

SafetyLink®
Innovative Fall Protection

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WARNINGS

READ CAREFULLY SOMEONE'S LIFE DEPENDS ON IT

INSTALLATION MUST BE CARRIED OUT BY, OR UNDER THE SUPERVISION OF A COMPETENT HEIGHT SAFETY INSTALLER.
The building or structure for the anchorages should be assessed by an engineer, unless it is clear to a competent height safety installer that the anchorages system is structurally adequate.

STANDARD EYEBOLTS MUST ONLY BE USED AS A FALL ARREST ANCHOR.
ABSEILING EYEBOLTS ARE TO BE USED FOR ROPE ACCESS (ABSEILING).
SURFACE MOUNTED ANCHORS MUST NOT BE USED FOR ROPE ACCESS (ABSEILING).
RETRO EYEBOLTS USED FOR ROPE ACCESS (ABSEILING) EXCEPT ON HIGH PROFILE SECTION.

When installing anchor points all safety procedures must be complied with in accordance with the current safety code/s of practice/s for working at heights.

- Recommended waterproofing for roof tiles: *Sika Flex Co-Polymer Sealant*.
- Recommended waterproofing for metal roof: *Silicone Sealant*.
- All threads must be coated with Loctite prior to assembly (IMPORTANT NOTE: Before applying Loctite 243 use Loctite 7471 primer to activate the surface according to manufacturer's instructions).
- A personal energy absorber or a fall-arrest device with a personal energy absorber must be used to connect to all SafetyLink Anchorages and (or) Strops.

⚠ MAXIMUM USER PER EYEBOLT IS ONE (1)

WARNING
Locking Hex Nut must be fully screwed up the thread of the eyebolt to expose 30mm of thread.

This thread must be fully screwed into the bracket, coat threads with Loctite (IMPORTANT NOTE: Before applying Loctite 243 use Loctite 7471 primer to activate the surface according to manufacturer's instructions).

Locking Hex Nut must be firmly tightened onto the bracket to stop the eyebolt from unscrewing and to gain maximum strength.

EYEBOLTS - Threads need to have a minimum of SIX FULL 360º TURNS into the ultimate thread.
RETRO EYEBOLTS - Threads need to have a minimum of EIGHT FULL 360º TURNS into the ultimate thread.

CORRECT
Always use a spanner when tightening and un-tightening the locking hex nut.

WRONG
DO NOT place an object into the eye of the eyebolt to tighten or un-tighten the locking hex nut, as this may damage the eyebolt.

MAINTENANCE – PERIODIC INSPECTIONS

All items of height safety equipment which are in regular use shall be subjected to periodic inspection and servicing. These regular scheduled inspections and servicing must be carried out by a competent height safety installer.

FIXED LADDERLINK: LADDER SUPPORT BRACKET

ALL LADDERLINKS MUST BE INSPECTED EVERY 12 MONTHS, INSPECTIONS NEED TO BE CARRIED OUT BY A COMPETENT HEIGHT SAFETY INSTALLER.

Procedures to be followed at inspection time:

- Visually inspect ladder support brackets for any signs of deterioration or the protective coating being removed. *(Note: LadderLink is made from marine grade aluminium and therefore should not corrode).*
- Ensure LadderLink is firmly secured to the structure as per SafetyLink Installation Handbook. *(refer to Installing LadderLink).*

SAFETYLINK ANCHORAGES

ALL ANCHORAGES MUST BE INSPECTED EVERY TWELVE MONTHS, INSPECTIONS NEED TO BE CARRIED OUT BY A COMPETENT HEIGHT SAFETY INSTALLER.

Procedures to be followed at inspection time:

- Visually inspect anchors for signs of deterioration.
- The FrogLink/TileLink anchor point has two energy absorbing regions and two stabilising joins which hold the eyelet in place during use. If these energy absorbing regions are expanded this will indicate the anchor point has arrested a fall. Similarly, if the two stabilising joins have been broken this would also indicate the FrogLink/TileLink has arrested a fall and should be replaced.
- The eyebolt should remain straight, a bent eyebolt will indicate that the anchor point has arrested a fall *(The design features of the eyebolt includes the ability to bend like a fishing pole starting from the top and working its way to the bottom, enabling it to use up energy as the eyebolt bends whilst lessening the force on the person falling and the attachment point).*
- Visually inspect the components of the anchor for corrosion, superficial surface marking is permitted while deeper corrosion or pitting would require attention.
- Manually (by hand) check the eyebolt for rigidity and tightness, if the eyebolt can turn in the anticlockwise direction it will require attention.
- Visually inspect the rubber hat washer and waterproofing components to ensure it has remained sealed.
- Visually inspect the attachment component of the anchorage where practically possible.
- Visually inspect the parent structure for modifications or deterioration which might lead to loss of anchorage strength.
- For Concrete Installation Only: To comply with Australian Standards, each ConcreteLink must be tested after installation and at every recertification inspection. Ensure you wait the recommended curing time as specified by the chemical anchor instructions. The pull test can be done using a 16mm threaded eyebolt. Test consists of ultimate pull out force proof loading to 50% of design purpose of anchorage.
- A personal energy absorber or a fall-arrest device with a personal energy absorber must be used in conjunction with all SafetyLink Anchorages and Lifeline systems.

IN ADDITION TO SAFETYLINK PTY LTD EQUIPMENT, ALL ANCILLARY EQUIPMENT MUST BE INSPECTED IN ACCORDANCE WITH APPLICABLE REGULATORY REQUIREMENTS AND THE MANUFACTURER'S INSTRUCTIONS.

FOR MAINTENANCE ADVICE AND SERVICES PLEASE CONTACT SAFETYLINK
ON +61 249 641068 OR 1300 789545 FOR YOUR NEAREST SAFETYLINK INSPECTION SERVICE CENTRE OR EMAIL: info@safetylink.com

WARRANTIES

EXTRACT: SafetyLink Pty Ltd STANDARD TERMS AND CONDITIONS

11.1 To the extent permitted by law all implied conditions, warranties and undertakings are expressly excluded.

11.2 Except as provided in this clause the Company shall not be liable for any loss or damage, whether direct or indirect (including consequential losses or damage) arising out of any breach of contract by the Company or any negligence of the Company, its employees or agents.

11.3 Should the Company be liable for a breach of a guarantee, condition or warranty implied by the Australian Consumer Law (not being a guarantee, condition or warranty implied by sections 51, 52 and 53 of that Law) then its liability for a breach of any such condition or warranty express or implied shall be limited, at its option, to any one or more of the following.

A) in case of Goods
   (I) the replacement of the Goods or the supply of equivalent Goods.
   (II) the repair of the goods,
   (III) the payment of the cost of replacing the Goods or acquiring equivalent Goods.
   (IV) The payment of the cost of having the Goods repaired.
   Provided that any such Goods are returned to the Company by the Purchaser at the Purchaser's expense.

B) in the case of services
   (i) the supply of the services again,
   (ii) the payment of the cost of having the services supplied again.

11.4 The Company will not be liable for the costs of recovery of the Goods from the field, loss of use of the Goods, loss of time, inconvenience, incidental or consequential loss or damage, nor for any other loss or damage other than as stated above, whether ordinary or exemplary, caused either directly or indirectly by use of the Goods.

11.5 The Company warrants that at the time of shipment, Products manufactured by it will be free from defects in material and workmanship. In the absence of a modified written warranty, the Company agrees to making good any such defects by repairing the same or at the Company's option by replacement, for a period of (1) one year from the date of shipment. This limited warranty applies provided that:

(a) defects have arisen solely from faulty materials or workmanship;
(b) the Products have not received maltreatment, inattention or interference;
(c) **the Products have been installed in accordance with the Company's Installation Handbooks using only products supplied by the Company;**
(d) accessories used with the Products are manufactured by or approved by the Company;
(e) the Products are maintained in accordance with Australian Standard 1891.4 (section 9).
(f) you notify any claim under this warranty to SafetyLink in writing to the address below no later than 14 days after the event or occurrence concerning the product giving rise to the claim and you pay all costs related to your claim.

This warranty does not apply to any defects or other malfunctions caused to the Goods by accident, neglect, vandalism, misuse, alteration, modification or unusual physical, environment or electrical stress.

Please note that the benefits to the purchaser (as a consumer) given by this warranty are in addition to your other rights and remedies under the Australian Consumer Law. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

11.6 If any goods are not manufactured by the Company, the guarantee of the manufacturer thereof shall be accepted by the Purchaser as the only express warranty given in respect of the goods.

11.7 Except as provided in this clause 11, all express and implied warranties, guarantees and conditions under statute or general law as the merchantability, description, quality, suitability or fitness of the Products for any purpose or as to design, assembly, installation, materials or workmanship or otherwise are hereby expressly excluded (to the extent to which they may be excluded by law).

PLEASE SEE SAFETYLINK PTY LTD FULL STANDARD TERMS OF CONDITIONS OF SALE FOR FURTHER REFERENCE.

RAFTER MOUNTED ANCHOR - RAFTERLINK (TOP OF TIMBER RAFTERS)

Product Code: RAFTR001

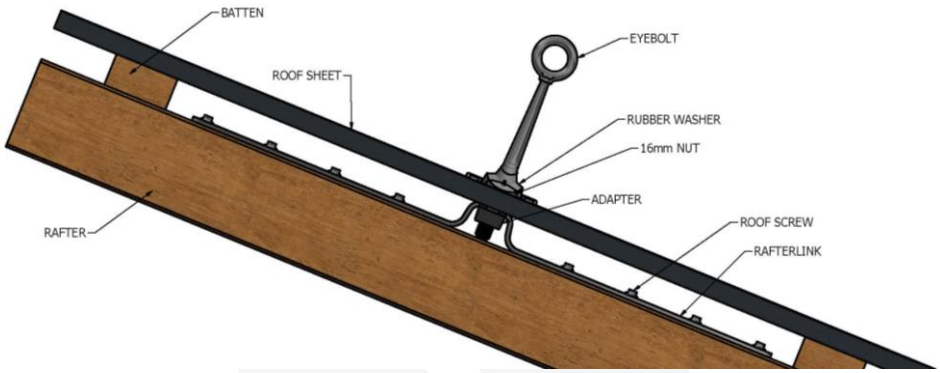
All safety procedures must be complied with in accordance with the current safety code(s) of practice(s) for working at heights. Ensure safety at all times during and after installation by using an appropriate height safety protection system.
The first RafterLink anchor point must be in a position easily and safely reached from a safe access point. *RafterLink can be used with both the standard and abseiling eyebolts, the* ***abseiling eyebolt is required on pitches greater than 30 degrees.***

INSPECT THE TIMBER FOR STRENGTH

Install anchors only to timber strong enough to support the anchor point. Minimum timber size is 35mm by 90mm (grade F7). Inspect the timber for splits, cracks, knots and white ant damage. Ensure the timber structure is secured in accordance with current building codes and manufactures instructions.

COMPONENTS

Qty	*Product Description*
1	Eyebolt: Standard *or* Abseil with Locking Hex Nut 316SS
1	Washer: 75mm Rubber Hat
1	RafterLink Base Plate



FIXING RAFTERLINK

Fixing to hardwood F14 or greater use 8 type 17 Hex Head 14g x 75mm screws.
Fixing to softwood less than F14, use 8 type 17 Hex Head 14g x 90mm screws.
4.5mm pilot holes must be drilled into the timber the full length of each screw to avoid timber splitting.
Drilling a hole close to edge of timber, the hole should be slightly angled inward from the edge giving the screw a stronger hold. ⚠ Lateral bracing straps must be used if there is a possibility of falling in a direction 45 to 90 degrees to the rafter.

FIXING THE EYEBOLT

1. When screwing the locking hex nut onto the eyebolt make sure it is fully screwed up exposing 30mm of thread, coat threads with Loctite (IMPORTANT NOTE: Before applying Loctite 243 use Loctite 7471 primer to activate the surface according to manufacturer's instructions).
2. Place the Lateral Bracing Strap across the rafters and screw the eyebolt through the strap and into the RafterLink, tighten the locking hex nut using a spanner (*refer to Warnings*), screw the Lateral bracing strap down onto the adjacent rafters.
3. The strength of the lateral bracing needed depends on the structure and the amount of risk of a lateral fall off the roof but if any doubt exists as to the strength of the structure an engineer should make the assessment.

RELOCATING EYEBOLTS DURING THE INSTALLATION OF THE ROOF

You must be safely attached to an anchor point or using an alternative form of roof safety while removing and replacing the eyebolts. Use a spanner to release the locking hex nut then unscrew the eyebolt.

MARKING THE HOLE IN THE ROOF

Measure the position using two reference points, drill a 16mm hole. For a metal roof screw a marker pin into the RafterLink, lay the roof sheet in position and push down on roof sheet. The pin should mark the position of the 16mm hole to be drilled.

READY TO REPLACE THE EYEBOLT

1. The rubber washer should be on the eyebolt. Place the eyebolt through the 16mm hole and Screw the locking hex nut onto the eyebolt exposing 30mm of thread, coat threads with Loctite.
2. Screw the eyebolt all the way into the stainless steel bracket. Before tightening the locking hex nut turn the eyebolt to line up with the fall of the roof, (see above diagram). Tighten the locking hex nut using a spanner.
3. **Threads need to have a minimum of six full 360º turns into the ultimate thread.**

WATERPROOFING

Apply only to a dry surface, use the sealant between the rubber hat washer and the roof sheeting to waterproof the roof.

RAFTER MOUNTED ANCHOR - RAFTERLINK SIDE MOUNTED

Product Code: RAFTR004

INSTALLATION: TO THE SIDE OF A TIMBER RAFTER – EXISTING BUILDING

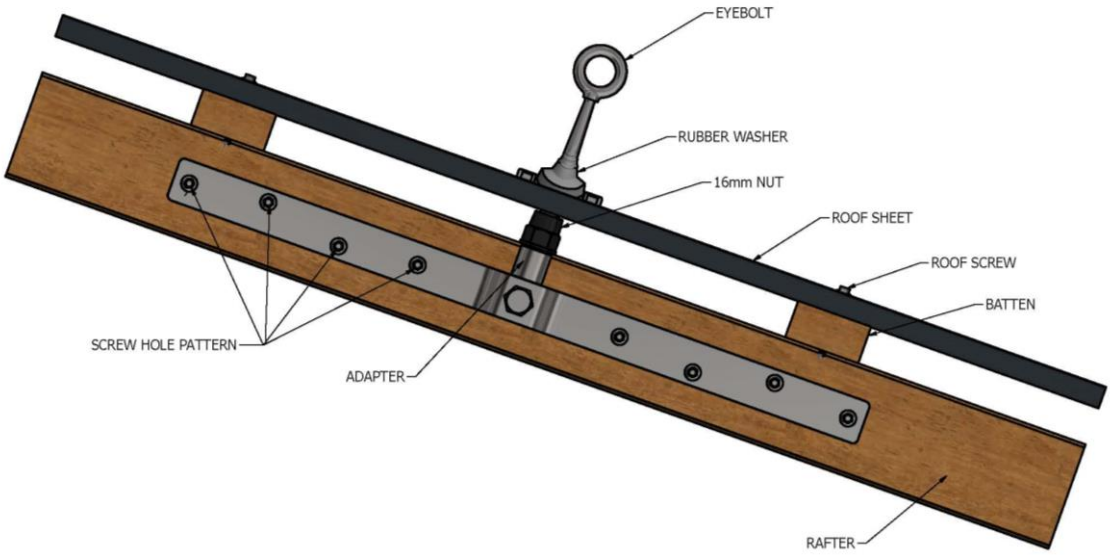
All safety procedures must be complied with in accordance with the current safety code(s) of practice(s) for working at heights. Ensure safety at all times during and after installation by using an appropriate height safety protection system. The first RafterLink anchor point must be in a position easily and safely reached from a safe access point. *RafterLink can be used with both the standard and abseiling eyebolts, the* ***abseiling eyebolt is required on pitches greater than 30 degrees.***

INSPECT THE TIMBER FOR STRENGTH

Install anchors only to timber strong enough to support the anchor point. Minimum timber size is 35mm by 90mm (grade F7). Inspect the timber for splits, cracks, knots and white ant damage. Ensure the timber structure is secured in accordance with current building codes and manufactures instructions.

COMPONENTS

Qty	*Product Description*
1	Eyebolt: Standard *or* Abseil with Locking Hex Nut 316SS
1	Washer: 75mm Rubber Hat
1	RafterLink Base Plate: Side Mounted with adapter



FIXING THE RAFTERLINK

1. Place the bracket in centre of the rafter, 80mm down from the underside of the roof sheeting.
2. 4.5mm pilot holes must be drilled into the timber, through the holes in the RafterLink, the full length of each screw to avoid timber from splitting.
3. 8 type 17 Hex Head 14g x 50mm screws in prepared holes (minimum timber size 90mm x 35mm F7).

⚠ Lateral bracing straps must be used if there is a possibility of falling in a direction 45 to 90 degrees to the rafter.

INSTALLING THE EYEBOLT

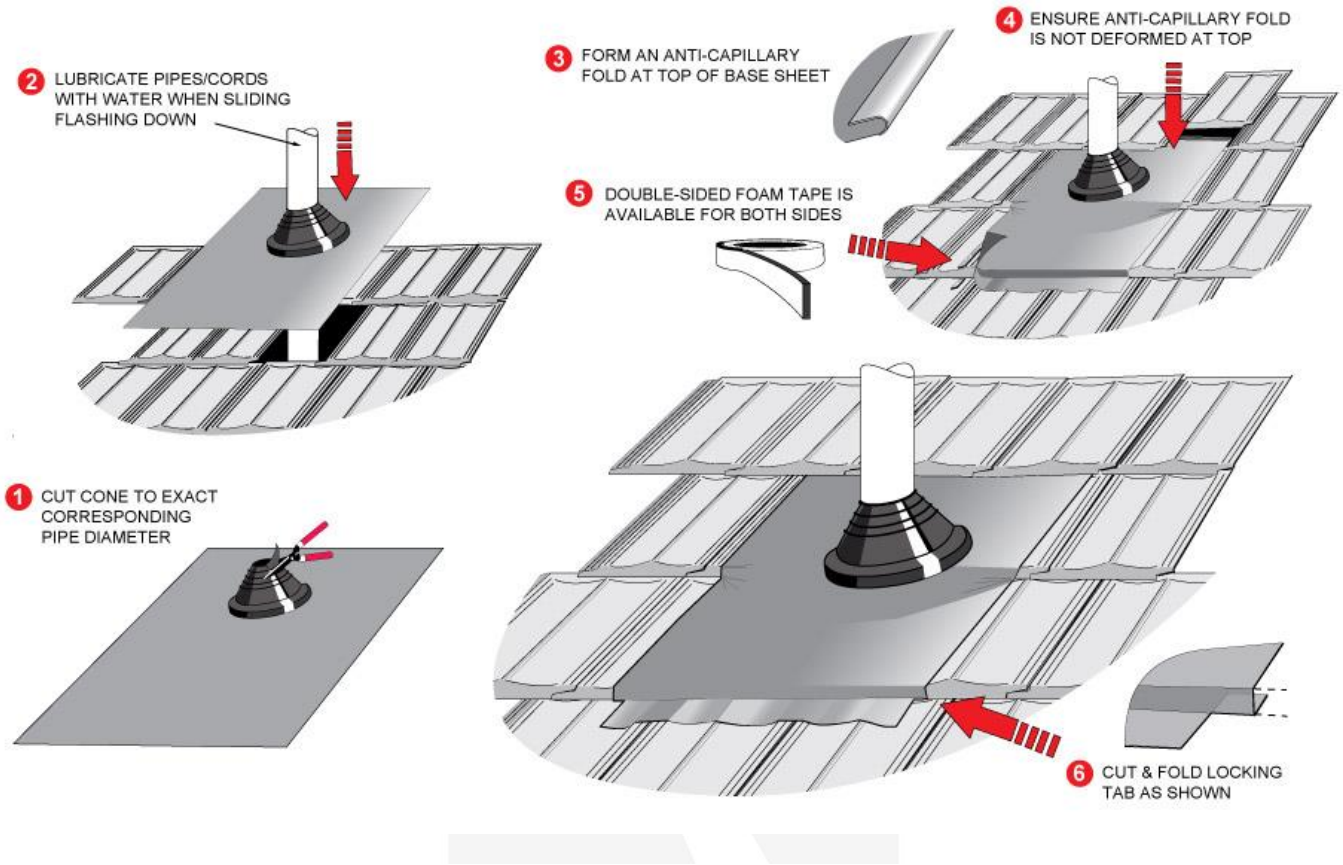
1. This requires one installer on the top of the roof sheeting and the other under the roof sheeting. The person on the roof makes sure the rubber washer is on the eyebolt before slipping the eyebolt through the 16mm hole.
2. The person underside of the roof screws the locking hex nut fully onto the eyebolt exposing 30mm of thread, coat threads with Loctite (IMPORTANT NOTE: Before applying Loctite 243 use Loctite 7471 primer to activate the surface according to manufacturer's instructions) (*refer to Warnings*).
3. The person on the roof is now ready to screw the eyebolt all the way into the RafterLink.
4. Before tightening the locking hex nut turn the eyebolt to line up with the fall of the roof (*see above diagram*).
5. The person underside of the roof tightens the locking hex nut using a spanner.
6. **Threads need to have a minimum of six full 360º turns into the ultimate thread.**

WATERPROOFING

Apply only to a dry surface, use the sealant between the rubber hat washer and the roof sheeting to waterproof the roof.

INSTALLATION TO TILES

When installing RafterLinks to a tiled roof you will require flashing to replace tile above rafter.



Size Chart

METRIC: Pipe Size (25° roof pitch)	METRIC: Pipe Size (45° roof pitch)	IMPERIAL: Pipe Size (25° roof pitch)	IMPERIAL: Pipe Size (45° roof pitch)	Base Size
5-50mm	5-40mm	⅛"-2"	⅛"-1½"	490x410mm

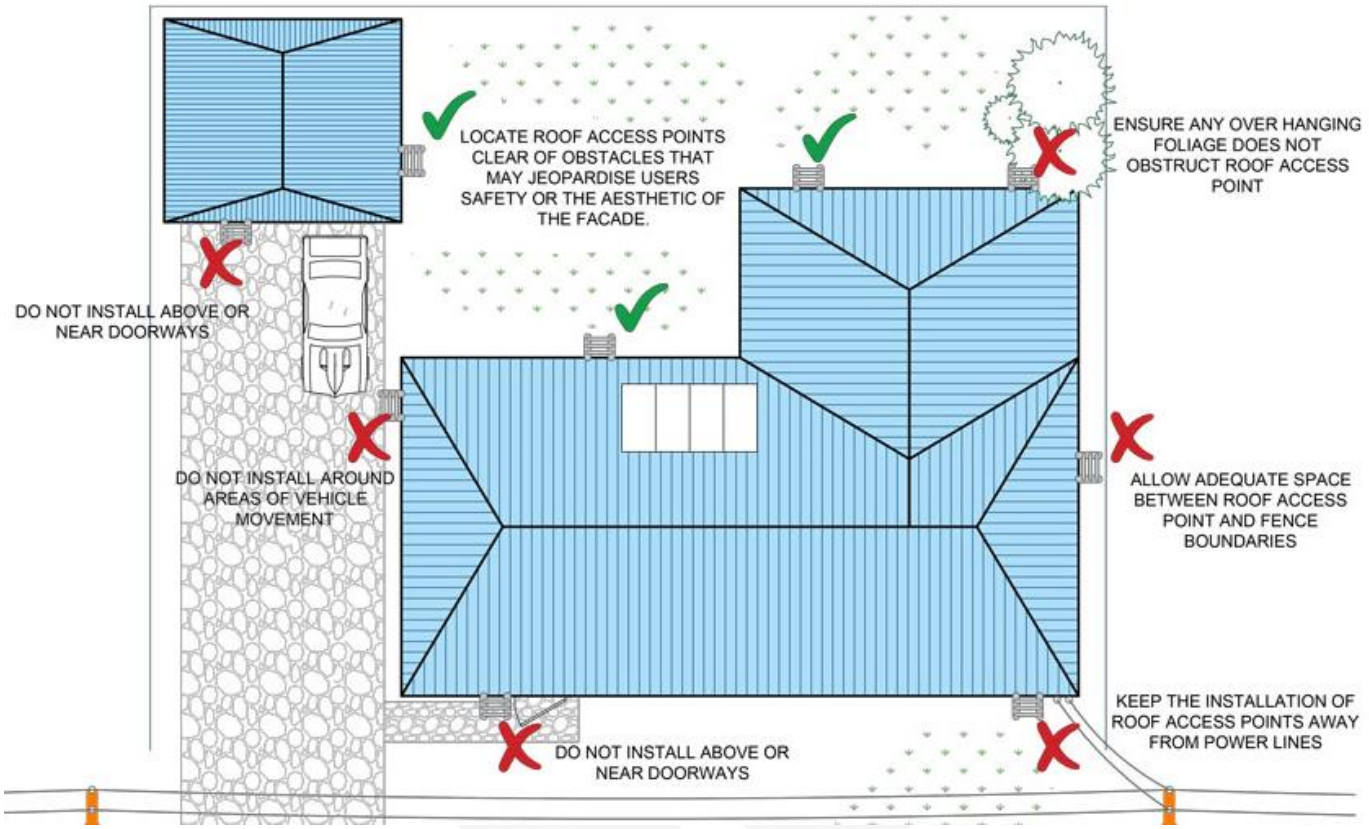
*EPDM will withstand constant temperatures of -40°C (-40°F) to 115°C (239°F). *Silicone will withstand constant temperatures of -50°C (-58°F) to 240°C (464°F).

- Manufactured with Acryflash®, a lead sheet that is drinking water compliant to AS/NZS 4020:2005.
- Acrylic coating helps prevent lead leaching.
- Can be painted to match roof colour with acrylic house paint.
- Polymer is Ozone and UV resistant.
- Safe to handle.
- 20 year warranty.
- BAL certified.

APPENDIX – Diagram 2 – Anchor Positioning Layout

THIS IS A GUIDE ONLY

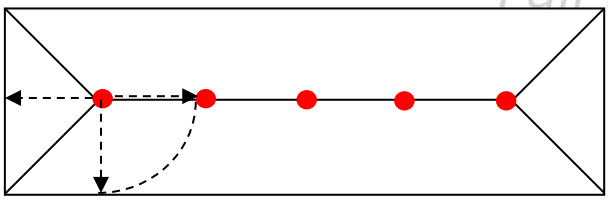
All working at heights safety procedures must be complied with when installing SafetyLink anchor points. For more information refer to your state or territories current legislation, regulations, policies and codes of practices.

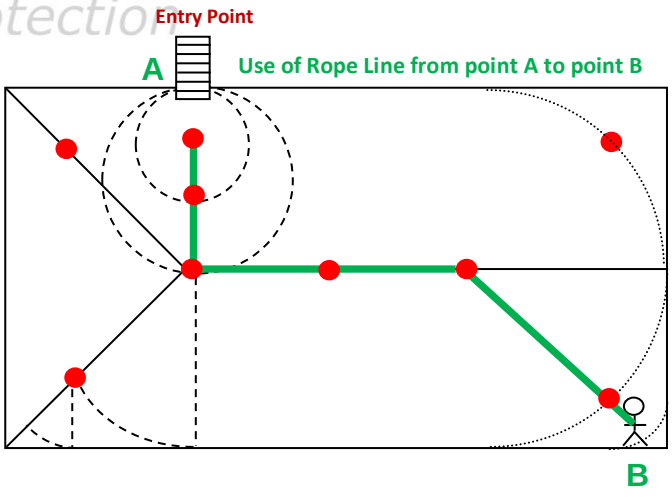


⚠ **IF ANY DOUBT EXISTS WITH THE STRENGTH OF THE STRUCTURE OR ROOF SHEETS AN ENGINEER SHOULD MAKE THE ASSESSMENT.**
⚠ **DURING INSTALLATION YOU MUST BE SAFE AT ALL TIMES.**
⚠ **INSTALLATION MUST BE CARRIED OUT BY, OR UNDER THE SUPERVISION OF A COMPETENT HEIGHT SAFETY INSTALLER.**

ACCESS, LAYOUT AND USE OF A SAFETYLINK ANCHOR SYSTEM

SafetyLink anchor points are positioned by calculating the pendulum effect, this limits the likelihood of a fall past the edge of the roof space. The pendulum effect still applies to a flat roof.



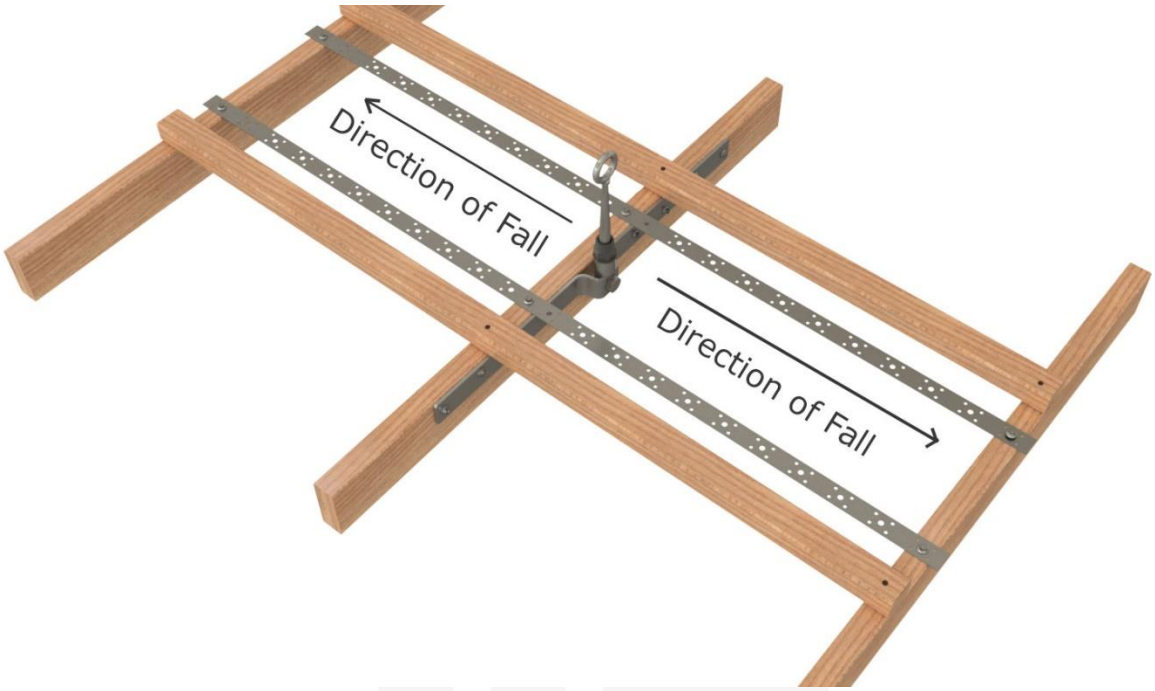


SPACING MUST BE NO GREATER THAN THE RAFTER LENGTH, PLEASE CONTACT YOUR DISTRIBUTOR IF YOU ARE UNSURE.

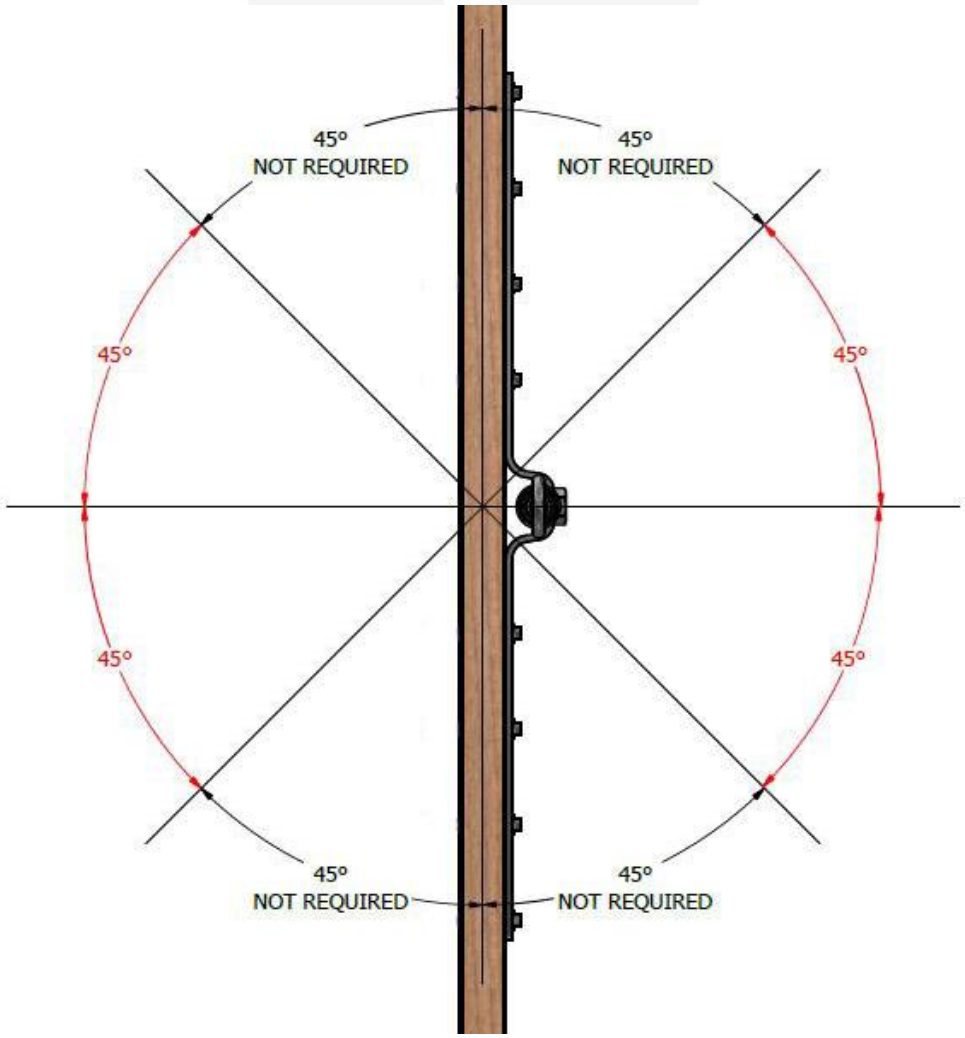
SAFETYLINK HEIGHT SAFETY SYSTEMS MUST ONLY BE INSTALLED AS PER OUR INSTALLATION GUIDES, TO STRUCTURES AS SPECIFIED IN THE INSTALLATION MANUAL FOR EACH PRODUCT. SHOULD ANY DOUBT EXIST IN REGARD TO THE STRUCTURES INTEGRITY AN ENGINEER SHOULD BE CONSULTED.

APPENDIX – Diagram 3 – Lateral Bracing Straps

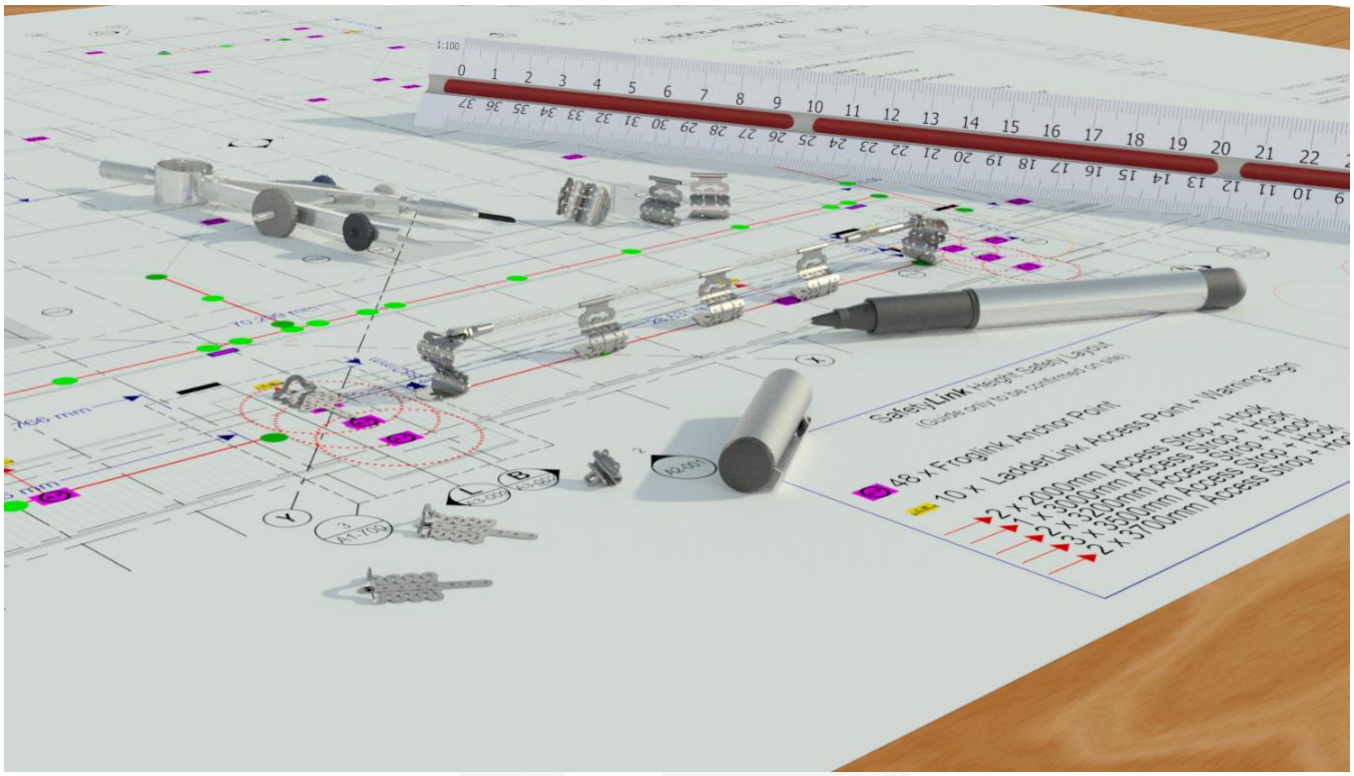
Example of metal bracing being used to brace if a sideways fall is likely in both directions.



Bracing may be required for sideways loads due to rafter size, location of rafter (high in the hip) and existing additional structural bracing (existing batten locations, noggins, metal bracing, plywood decking). Assessment will always need to be made by a competent person for each anchor installation at time of install.



EXPERT FALL PROTECTION PLANNING



SafetyLink's design and planning team are here to help work out the positioning of your fall protection system, ensuring all areas of your roof are accessed safely.

Things to consider when planning your roof layout:

- Are all areas of your roof protected, allowing complete access when working at heights?
- Are you protected from the ground up, allowing complete access to your roof?
- Detailed comprehensive documentation provided e.g. installation guides, testing results, product sheets should be provided.
- SafetyLink can also provide you with a qualified and reputable installer of SafetyLink products.

Contact our design team at info@safetylink.com and we can plan your fall arrest system for you.

IN CASE OF ACCIDENT

⚠ **A FALL RESCUE PLAN AND SAFE WORK STATEMENT MUST BE DEVELOPED PRIOR TO USING SAFETYLINK SYSTEMS AND EQUIPMENT.**

⚠ **PERSONS WORKING AT HEIGHTS SHOULD NOT WORK ALONE.**

It is critical that before using any SafetyLink Systems a fall rescue plan is in place for any persons suspended mid-air following a fall. Serious injury or death can occur in a matter of minutes, particularly if a person's movement or breathing is restricted or loss of consciousness has occurred. In accordance with your fall rescue plan and appropriate first aid procedures it is essential to remove the person from the suspended position as quickly as possible.

In accordance with AS/NZS 1891.4:2009 clause 9.5

EQUIPMENT WHICH HAS ARRESTED A FALL OR SHOWS A DEFECT

Any piece of equipment including both personal and permanently installed items, which has been used to arrest a fall or which shows any defect during operator or periodic inspection shall be withdrawn from service immediately and a replacement obtained if necessary. A label indicating the condition or defect should be attached to the equipment, and it should be examined by a competent height safety installer who will decide whether the equipment is to be destroyed or repaired if necessary and returned to service. In the latter case, details of any repair shall be documented, and a copy given to the operator.

SafetyLink®
Innovative Fall Protection

bsi ISO 9001 Quality Management Systems CERTIFIED
FS 707792

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