



EDGE PROTECTION

NEW ZEALAND LIMITED

Keeping Height Safety Simple

EBR Re Roof Bracket Instructions



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Section A

EBR re roof bracket Preliminary Information.

Please read all the instructions before starting the assembly process.

The E Bracket* EBR system consists of an easy to fit metal bracket and support pole assembly that locates under the eave/soffit and can also face mount on many building types.

All of our systems are designed to provide three pre-set rail heights at the required location around the perimeter of a building's roof which in some cases enables the installer to safely fit the guardrails from the roof surface in a progressive manner whilst remaining behind the guardrail assembly. This technique is called "progressive guardrail installation" (PGI) and should be at the forefront of your thinking during all stages of the installation of this product. On a new build, this method of installation will require you to have adequate in-fall protection in place such as safety mesh or an existing roof covering.

It may also be necessary to use a secondary hazard control measure such as a safety harness and travel restraint system (Note: always refer to your own state guidelines & regulations).

However, if it is possible to use a safe lifting device such as The Rail Racer** to install the rails from the ground then this option should be considered first as the primary method of rail installation due to the fact that it actually removes the risk of a fall from height by eliminating the hazard.

It is important to put thought into how you will use your rails and whether 3mtr or 6mtr lengths will work on most of your jobs as the guardrail (horizontal rail). Depending on your industry and requirements, each bracket is allocated either a 1 x 4mtr or, 4 + 2m or, 6mtr vertical pole (upright). 4.0mtrs enables the upright assembly to work well on most single storey jobs.

The four lengths of 6.0m, 4.0m, 3.0m and 2.0m complement each other. You will also need a quantity of 1mtr long vertical tie rods to fix the three rails together when uprights/brackets reach the maximum spacing of 5.4mtrs.

See note below.

Rails

Galvanised or aluminium tube guardrails are acceptable as long as they meet the relevant current New Zealand/Australian Standards for scaffolding and, are erected and used in a manner of which to comply with any and all of the relevant industry standards and good practice guidelines inclusive of these instructions.

If using standard galvanised steel guardrails, it is recommended that bracket spacing's are reduced to no more than 3.6mtr centres due to the extra weight of the rails as opposed to that of aluminium. It is preferred however that only genuine Ebracket Edge Protection System aluminium tube rails are used due to the significant weight saving over galvanised tube rails allowing for easier and safer handling, faster erection and dismantling, which equates to less time working at height thus reducing the risk of a fall. If you would like to confirm whether the tube you propose to use with our system is compliant, please contact us immediately.

Please Note:

The maximum spacing between brackets when using genuine Ebracket Edge Protection System aluminium tube or compliant steel or aluminium tube is 5.4mtr centres however it is recommended if using conventional galvanised scaffold tube that bracket spacings are reduced to 3.6mtr centres due to the extra weight.

Vertical "tie rods" are required to be fitted centrally to fix the three guardrails together and prevent rail separation when brackets reach the maximum spacing of 5.4mtrs.

Less than 5.4mtr centres, the tie rod is not required. See page 18 for a typical tie rod assembly example.

Training video [Assembly & installation video](#)

The Rail Racer** [Rail Racer demo](#)

To assemble the edge protection system you will require the following items **not** supplied in your kit;

- Suitable ladder/platform ladder, EWP or Safe rail lifting device such as **The Rail Racer** pre-purchased in your Kit.**
- Battery drill or impact driver/wrench. Alternatively, a manually operated hand tool.
- Pipe cutter for tube rails optional.

The below are items supplied in the Site Compliance & tool pack

- Large rubber bands (to keep half clamps open).
- A 21mm deep reach impact socket for the impact driver/wrench.
- 17mm socket.
- 4mm drill bit.
- 14-gauge x 50mm minimum length tek screws and bit.
- Envire support plate x 1 per bracket/base jack, minimum 200mm x 45mm x 250mm long.

Preliminary to any on site works, it is advisable to complete a full Task Analysis/JSA/SWMS to ensure all potential hazards are identified and the risks mitigated appropriately.

It is also a good idea to plan ahead and identify where you will access the roof after installation of the edge protection. Please see page 17 Access Points.

Bracket Assembly:

Rubber bands

Gable end mounts

EBR re roof bracket

Half clamps

Adjustable base jack

EBR multi bracket (optional extra)

M10 x 25mm coach bolt & nut

EBR foot mount



** Please note only the EBR bracket and foot mount are sold as one item. Everything else is an individual item that will be sold in a set or as components.

When using aluminium tube for the guard rails, rubber bands should be fitted to the bracket assembly which ensures the clamps remain open prior to guardrail fitment.



Fit rubber bands to the bare bracket. Double the top band over as the bracket is narrower at this point.



Fit half clamps to the bracket as shown. Ensure the clamps are square to the mounting tab and nuts are tight. Fit vertical pole clamps to the opposite side of the bracket.



Left side



Right side

Pull bands over the half clamps. Attach foot mount with supplied 17mm stainless steel coach bolt & nut. For a standard flat soffit/eave keep the foot mount in the central/flat position as shown. Final assembly should look like this. Rubber bands will hold clamps open until guardrails are in place.

Section B

EBR re roof bracket installation with aluminium tube.

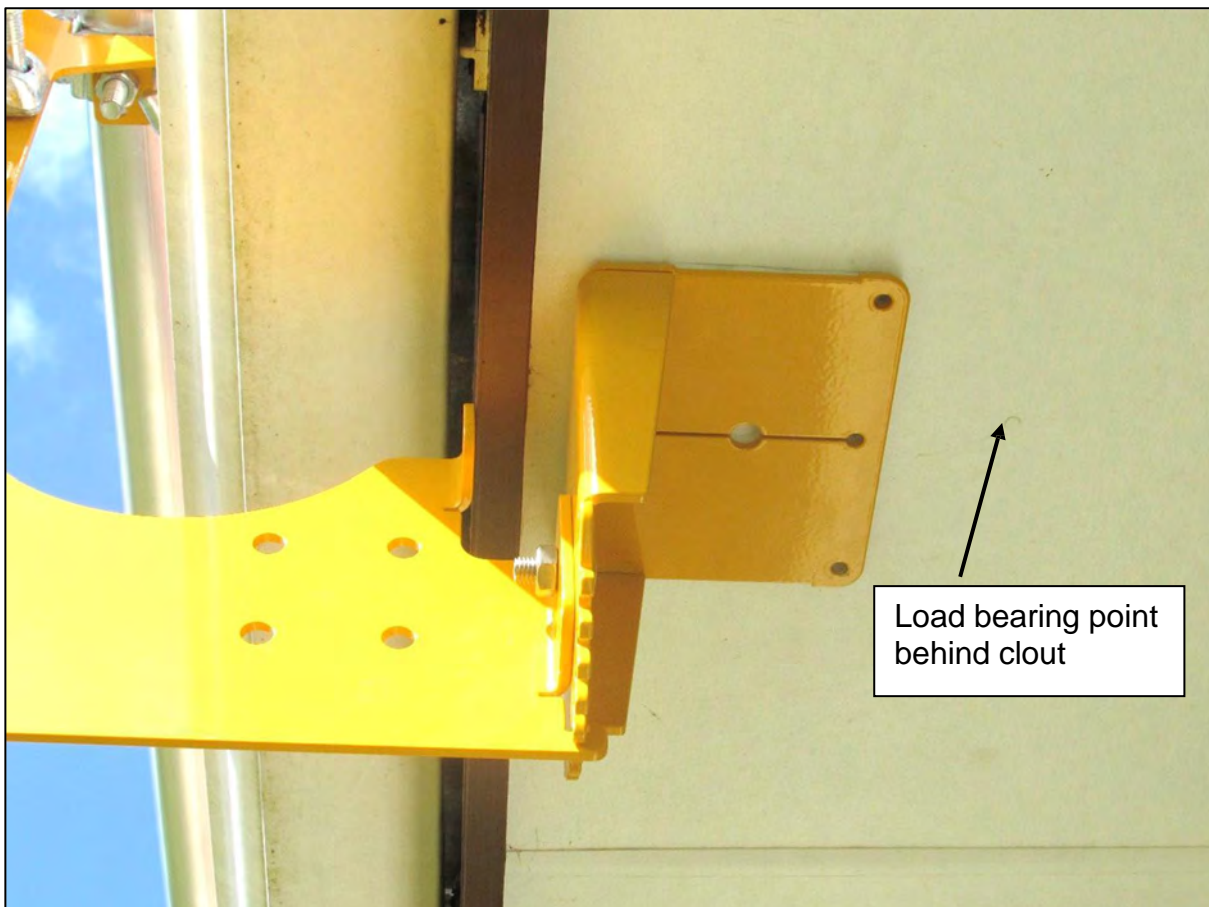
Carry out a quick site inspection to determine where you will mount each bracket assembly.

The E Brackets* are to be fitted at no further than 1200mm from any external or internal corner of the roof perimeter. When installed correctly an external corner should look like the example here.

The bracket on **one** side can be fitted closer to the corner but if both brackets are fitted near the corner, then you will run into problems as the guardrails need to run past each other with one on top of the other. If both brackets are fitted too close to each other the rails will butt together, and it will not be possible to run them past each other.

Determine the number of brackets required per roof edge and identify where they will be fitted.

Ensure the roof or wall structure is sound enough to receive the edge protection system. This requires identification of the load bearing member behind the soffit/eave lining. This member can be located by looking for the fixing (generally a flat head nail or clout) on the surface of the soffit/eave lining, or by applying pressure to the soffit/eave to find a structural member.



Step 1. Carry out a quick site inspection to determine the location of any hazards such as power lines, holes in the ground etc.

Remember you will need to provide an access point onto the roof (typically an opening of 1000mm maximum at the gutter edge), or at the end of your guardrail (LARM: max 500mm from your last bracket)

The E Brackets* are to be fitted at no further than 1200mm from any external or internal corner of the roof perimeter.

Predetermine the location of the horizontal timber soffit/eave member where you will situate the bracket. (Typically, a nail head will give away this location).

Ensure the horizontal soffit/eave member is sufficient to hold the bracket in place and take upward pressure from the screw jack.

Place the sole plate and base jack on the ground directly below the load bearing point and take a (base) measurement from the base jack winder handle to the soffit/eave lining.



Measure down to the top of the winder (approx. 2860mm in this instance).

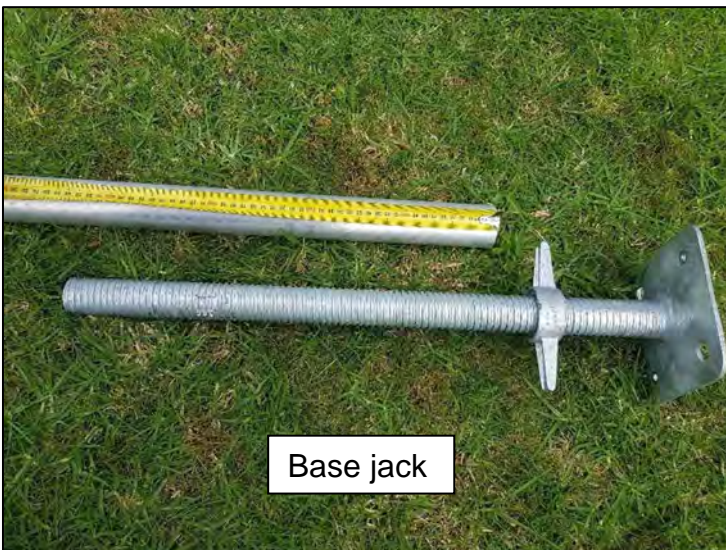
This measurement is not critical, but you will need it to be close to accurate to determine where the vertical pole is to be situated in relation to the foot mount on the upright assembly. If using a tape measure is not practical to gain this measurement due to height or weather conditions, then a laser range finder may be a useful alternative.



Step 2. Place the bracket and pole beside each other directly out from the base jack with the two vertical pole clamps facing upward and open.

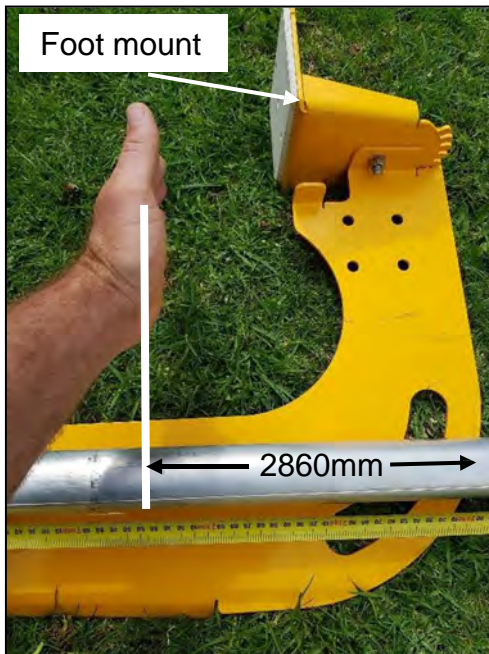


Lay the pole onto the bracket ensuring it sits inside the two open half clamps.



Base jack

Place measuring tape on the end of the pole and find your base measurement on the pole. This will be near the foot mount. (shown on next page).



Slide the pole up or down the bracket until the base measurement sits approx. 100mm higher than the foot mount pad. This will situate the foot mount approx. 100 mm lower than the soffit/eave lining to give enough clearance for a simple installation.



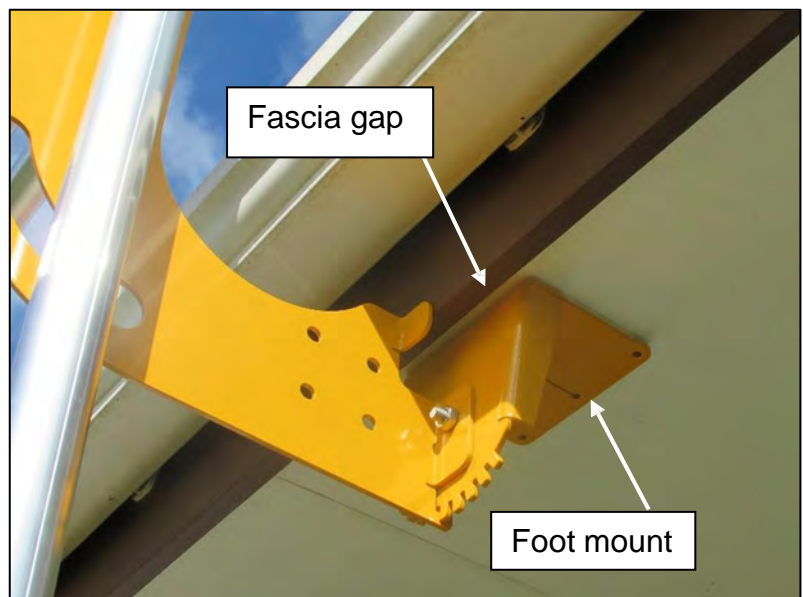
Step 3. Slide the adjustable base jack into the end of the vertical pole and raise **The E Bracket*** and adjustable base jack assembly into position as one, using a second person to assist in the footing of the base jack at its desired location, on the sole plate, ensuring **The E Bracket*** foot mount remains facing away from the building/fascia at this stage.

Once upright, stand on the base jack and carefully turn the upright assembly 180 degrees to swing the foot mount under the soffit/eave and wind the handle on the base jack up to provide pressure onto the load bearing soffit/eave member. Ensure the fascia board is in the fascia gap and the vertical pole remains relatively plumb. Just enough pressure should be applied to create a slight bow in the pole and fully compress the neoprene rubber non slip foam pad on the foot mount. For the best result, ensure the foam pad is evenly compressed around the circumference of the foot mount. Adjust if necessary by kicking the base jack to alter the position of the foot mount.

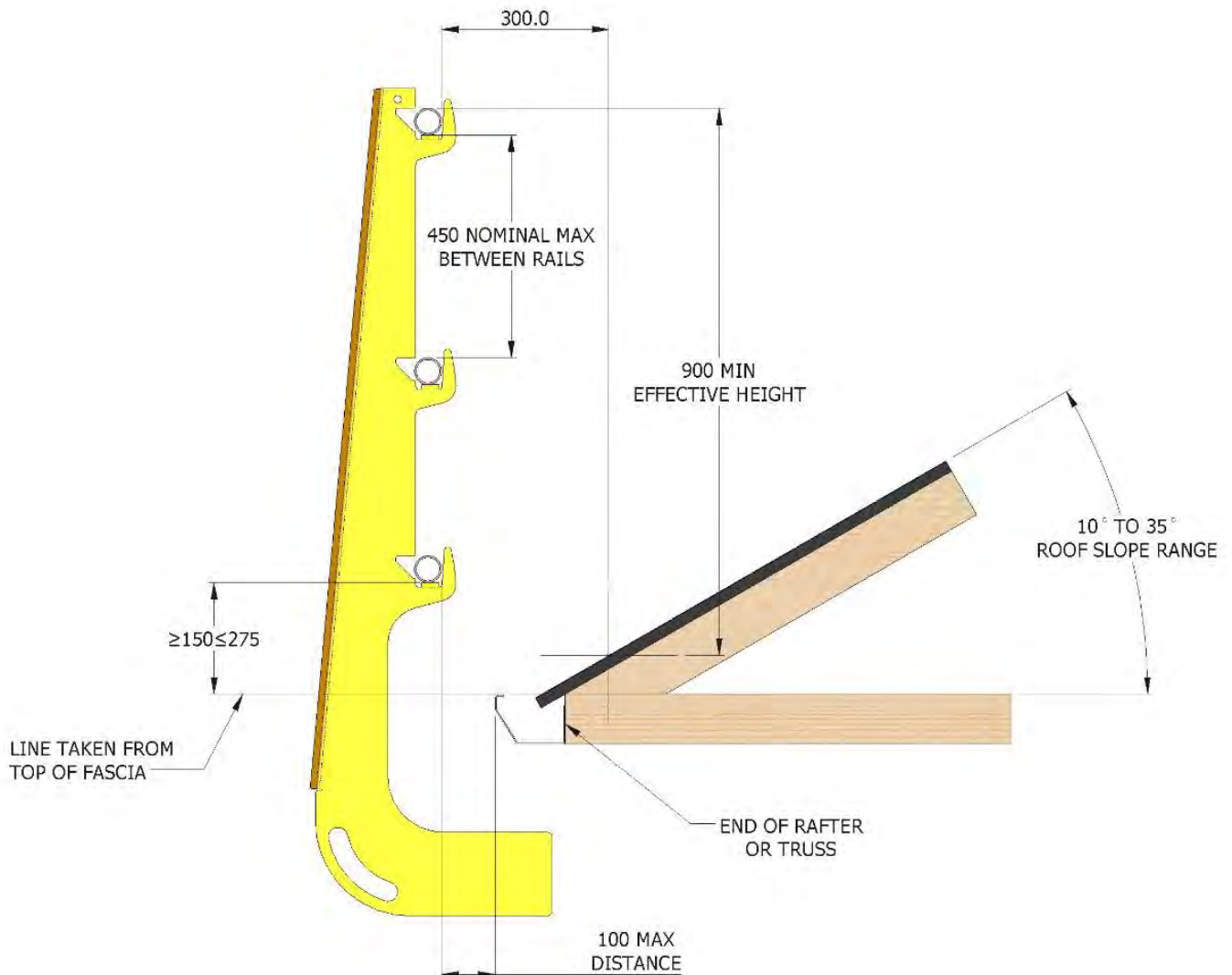
The foot mount must be situated on a load bearing member.

It may be necessary to fix the foot mount to a timber soffit/eave member. This is only necessary if the structural integrity or load bearing capability of the load bearing member is not able to be confirmed. If mechanical fixing is deemed necessary, a tek screw is the most appropriate fixing. Pre-drill a 4mm hole in the soffit/eave through one of the holes in the mounting plate and into the soffit/eave member. (This hole can be drilled larger at the conclusion of the job and fitted with a plastic soffit/eave plug or similar).

Fix the assembly off with a 14 GAUGE x 50mm minimum length tek screw.



Check that the rail heights are correct by measuring from the roof surface to the top rail location. This should be an effective height of 900mm minimum whilst the gap between the lower rail and roof surface should be no less than 150mm and no greater than 270mm. Also check that the horizontal distance between the guardrail assembly and the roof edge is within 100mm. See diagram:



Step 4. Fit consecutive brackets ensuring the maximum spacing between brackets does not exceed 5.4mtrs.

Step 5. Fitting the first guardrails. The safest way to achieve guardrail installation is with a safe lifting device such as **The Rail Racer**** as this eliminates the risk of a fall from height.



Place the first guardrail into the lower rail position allowing the other end of the tube to sit safely on the ground.



Clamp the rail near the end and carefully lift into the lower rail position.



Repeat the process for the mid and top rails.

Fitting the first guardrails **without** a safe lifting device:
The first guardrails in the sequence need to be fitted in a safe manner from either a ladder, step platform or EWP.

The first bay of guardrails should always be at the lower roof edge/gutter side and one bay at least should be fitted and secured in place prior to getting on the roof.

Position your ladder, step platform or EWP in close proximity to the work area and lay the guardrails into the open half clamps ensuring there is enough rail extending out to the end of the building for the opposing rails to connect to.

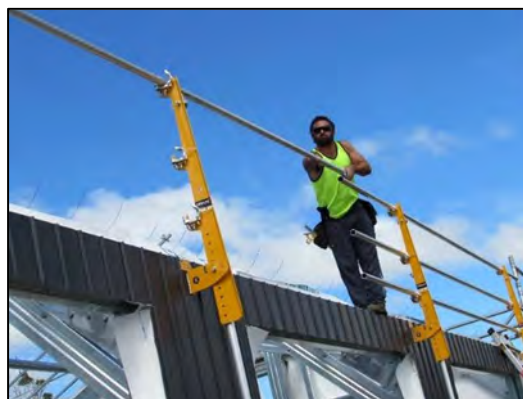
Close the half clamps and securely fasten the nuts.



It is now safe to get onto the roof behind the guardrail assembly to continue fitting the remaining rails in a progressive fashion (provided there is adequate in-fall protection in place).

The technique used with **progressive guardrail installation (PGI)** is that you always position yourself within the safe zone behind the rail assembly and progressively install the guardrails.

It may also be necessary to employ the use of a safety harness and travel restraint system to ensure the installer is always protected from a fall from height. (Recommended).

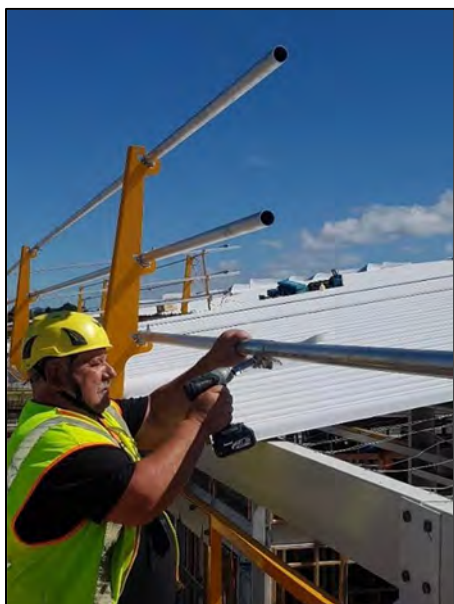


(please note the EBR re roof bracket is **not** shown in the above photos but the principals of operation remain the same)

Best practice is to have a second person assist from the ground in passing the rails up and pre-fitting the external joiners to the rail ends to avoid throwing componentry up to the installer which is dangerous.

Depending on how the rails fall within the brackets, it may be necessary to descend from the roof in order to reposition the ladder in cases where the cantilevered rail extends too far from the bracket to enable safe fitment of the next rail. If this is the case it will be necessary to fit that bay off the ladder, step platform or EWP before continuing from the roof.

Step 6. Straight Join - Consecutive rails are to be butted into the ends of the currently fixed rails and fastened with an external sleeve joiner as in the pictures below. Best practice is to face the nuts outward to prevent injury if any person does come into contact with the joiner. Ensure the joiners are tightened evenly on both sides and that the tube is fitted hard to the centre of the joiner.



Best practice is to pre-fit the joiners to the guardrails prior to rail fitment. This means less time is spent working at height and it makes the job easier. Tighten up the end of the joiner that is in contact with the rail just enough so that it will not fall off during installation. If the joiner is tightened too much it will not slide over the next rail.



If possible, eliminate a hazard by lifting the consecutive guardrails into position with a safe lifting device such as **The Rail Racer****.

Step 7. Setting up for gable ends.



Estimate roof pitch. This example is approx. 15°.



Adjust foot mount to the tooth which offsets the foot mount to an angle as close as possible to the roof pitch.

Brackets used on the gable end are set up differently to those used on the gutter side in that gable end mounts are added to the assembly which allow the guardrails to conform to the pitch of the roof. This requires the half clamps to switch sides. In all cases the half clamps which hold the vertical pole are on the **opposite** side of the bracket to the guardrail clamps.



3 x gable end mounts required.



Gable end mounts fitted.



Correct gable end mount fitment.



Generally, three brackets are required per each gable end. One at the apex of the gable, and one within 1200mm of the gutter end. Extra brackets will only be required if the 5.4mtr maximum spacing between brackets is exceeded.

The vertical bracket assembly should remain nominally vertical as opposed to being tilted to the roof pitch although tilting the upright slightly to allow the foot mount pad to fully contact the soffit/eave is fine.



Step 8. Fitting the gable end/barge side rails.

It is necessary to have fitted the lower roof edge/gutter side rails prior to the gable/barge side rails as in the event of a slip on the roof, you are required to have adequate external fall protection in place.

Standing behind the guardrails on the lower roof edge, take possession of a rail from below and safely maneuver it into a position whereas you can stand far enough back from the gable/barge side roof edge and place it into the upper bracket closest to the apex before approaching the lower bracket near the corner with rail in hand and clicking it into place as soon as practicable. Fasten clamp and fit the remaining two rails and clamps prior to securing the intersecting rails together at the corner with putlog couplers. It may also be necessary to employ the use of a safety harness and travel restraint system to ensure the installer is always protected from a fall from height.

It is now possible to walk up the roof using the guardrails as a handrail to reach the upper bracket and fasten the three clamps in this location. This can be repeated until you reach the apex of the building where 3 x swivel couplers will need to be fitted to enable the rails coming up from the opposing side to connect.



Best practice is to pre-fit the swivel couplers to the guardrails prior to installing the rails. This means less time is spent working at height and it makes the job easier. Firstly, ensure the rails are long enough to protrude past the centre of the gable as well as the opposing rails at the gutter end.



Best practice is to install guardrails using a safe lifting device such as **The Rail Racer****.



Rails in place on one side of the gable protruding past the opposing rails at external corner.



Rails protruding past the centre of the gable with swivel couplers pre-fitted ready to accept rails from the other side.

Step 9. Internal/external corners.



Remember if using aluminium tube rails that if both brackets at the corner are closer than 1200mm from the external/internal corner you may have difficulty in fitting the rails together. The tubes need to run past each other rather than butt together. Corner intersections are secured together with either putlog couplers (PL48s/singles) or double couplers (90-degree couplers). Putlog couplers are preferred due to their ease of use, light weight, and versatility. Run one tube past the other and fasten the tubes together securely. Generally, all three rails will be better suited to either

sitting all on the top or all on the bottom of the opposing rails. Putlog couplers are best installed as shown in the pictures above to ensure there is less chance of dropping them.



STEP 10. Gable end intersection.

At the apex intersection of a gable end it is necessary to fix the rails together at the intersection. Swivel couplers are to be used in this location as per the example shown. Keeping the swivel couplers plumb/vertical ensures the guardrails remain parallel to the roof.

Only one **E Bracket*** is required at the apex of a gable end. Three rails are always required on all edge protection systems.



Section C

Further requirements

Diagonal Brace

Installation for a single bay or 2 bracket configurations

Once you have installed your single bay (steps 1 – 5), you then need to install your Ladder Arm either to the left or the right of your edge protection. Once this is securely in place you can get onto the roof and secure your half clamps & rails.

You are now ready to install your diagonal brace.

You will need a 6mtr length pole for a single storey or a 8mtr length pole for a double storey and the 4 x swivel couplers supplied in your pack.

1. Lift your aluminium pole so one end is at the top of the E Bracket® and the other end comes down diagonally towards the base of the other upright.

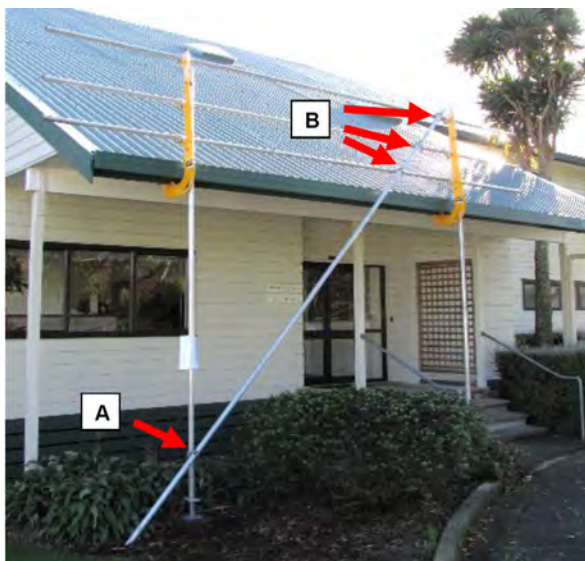
2. Secure a swivel coupler around your upright pole and your diagonal pole where they meet. **(A)**

3. Safely enter the roof at the end of the edge protection via your Ladder Arm.

4. Securely fasten the remaining 3 swivel couplers to each of your three guard rails. **(B)**

See the picture for reference. You can install the diagonal brace either way.

This brace can also be used to sure up an end or sections that may need extra support due to site conditions.



Access Points.

Safe access points are a requirement and should be limited to only what is necessary, and thought should be given as to their location regarding the safety of persons working on the roof. Access points should be situated at one end of the building if possible, to limit the risk of persons falling through the access point when walking past it.

Access points should be provided to create an opening of around 1mtr in width maximum.

Gate Access Point: The bottom rail should remain continuous across the access point and a self-closing inward opening gate should be fitted. Brackets fitted at approx. 1200mm apart allows for ideal gate fitment.

Access points may be required to conform to requirements set out in AS/NZS1576 suite of standards if a scaffold tower is used for access.

Gates are considered the best option for safe access and can be fitted easily between 2 brackets approx. 1200mm apart. The bottom rail should remain continuous and the gate should close against one of the brackets as per the example on right. Gates are required to be self-closing and must open inward.

Ladder should be tied off appropriately at the top and bottom of the ladder and removed from site out of working hours to minimize the risk of public entry.



LARM: Ladder Arm - ladder access point is ideal for 1-day installations and are to be installed at one end of the edge protection.

Allows safe access/egress onto the roof at either end of the edge protection.
To be fitted with 500mm of the end E bracket.
Can be installed on the left or right of the edge protection.

Tie Rods:



Typical tie rod assembly for guardrail bays of more than 5.4mtrs maximum.

This limits the risk of rail separation. Components can be putlog couplers, 90 degree couplers or swivel couplers.

Less than 5.4mtr centres, the tie rod is not required.

Sole Plates/Base Jack Support:



Ensure all base jacks are secured to the sole plates with minimum 2 x 14 gauge 50mm tek screws.

Progressive guardrail installation (PGI).

The technique used with progressive guardrail installation (PGI) is that you position yourself at all times within the safe zone behind the rail assembly and progressively install the guardrails. This can be achieved with both timber and tube rails and requires the installer to have installed at least one bay from a suitable ladder/step platform or mobile elevating work platform (MEWP) prior to getting on the roof. Progressive guardrail installation should also use a secondary hazard control measure such as a safety harness and travel restraint system. (Recommended).

Best practice is to have a second person assist from the ground in passing the rails up and pre-fitting the external joiners to the rail ends to avoid throwing componentry up to the installer which is dangerous.

Depending on how the rails fall within the brackets, it may be necessary to descend from the roof in order to reposition the ladder in cases where the cantilevered rail extends too far from the bracket to enable safe fitment of the next rail. If this is the case it will be necessary to fit that bay off the ladder, step platform or MEWP before continuing from the roof.





If it's possible to use a safe lifting device such as **The Rail Racer**** to install the rails from the ground, then this option should be considered first as the primary method of rail installation due to the fact that it actually removes the risk of a fall from height by eliminating the hazard.



The Rail Racer** <https://youtu.be/aVEEyhJRYpw>

Section D

Multi bracket and raker/outrigger assembly options

The EBR multi bracket is a secondary bracket used in place of the standard foot mount to enable the EBR system to be used on buildings without an eave / soffit, or where there is no supporting structure above.

A versatile bracket with many installation methods to suit multiple industry requirements.

RAKER/OUTRIGGER ASSEMBLY: **NO ATTACHMENT TO BUILDING REQUIRED.**

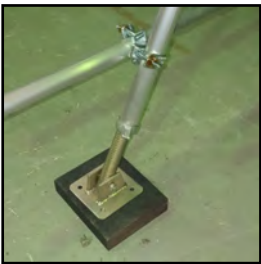


A raker/outrigger (triangular brace) is used for the following:

- *when no attachment to the structure is desired i.e. existing buildings,*
- *the structural integrity of the eave / fascia or structural timber behind the eave / fascia is in question,*
- *or when the re-roof bracket is used on a vertical pole which exceeds 6mtrs high.*

Note: the maximum allowable vertical pole height is 8mtrs. This will allow a maximum reach height of 7.3mtrs from the ground to the contact point of the bracket.

The raker/outrigger must be firmly footed on the ground. This can be achieved by using a swivel base jack (pictured left), or a second support sole plate with a tek screw to locate the bracing tube (pictured below). The raker/outrigger must also be connected to the mid rail with a swivel coupler as close as possible to the vertical pole.



The diagonal brace/raker/outrigger must remain at a 1:4 angle (for every vertical metre it will need to step out 250mm so if the distance from the ground to the mid rail is 4mtrs the raker/outrigger will be 1mtr away from the vertical pole).

A tie back tube should be fitted to complete the assembly as per pictures. If the mid rail exceeds 4mtrs from the ground, then a secondary tie back tube should be fitted also at approx. half way between the ground and mid rail. The tie back tubes should be fitted with a swivel coupler to the raker/outrigger and 90 degree or putlog coupler to the vertical tube.



Raker/outrigger fixed to mid rail with swivel coupler.



Multi bracket fitted for exposed rafter application. This option requires fixing



Picture shows bolts situated in forward slots of multi bracket with rearward holes beside them.



Picture shows bolts situated in forward bolt holes of re-roof bracket with rearward bolt holes beside them.

The multi bracket can be attached to the re-roof bracket as above for fitment to exposed timber rafters. There is a forward and rearward slot option on the bracket. Either option can be utilised with the corresponding forward and rearward bolt holes on the re-roof bracket for a range of adjustability. The nut and bolt assemblies must be tightened once the bracket is fitted to the building. The multi bracket should be fixed to the building with a minimum 1 x 14-gauge x 50mm minimum length tek screw. Pre-drilling the screw hole will prevent any split damage to the timber member.



Multi bracket fitted for face fixed application with vertical pole.

This option requires partial fixing

The multi bracket can be attached to the re-roof bracket as below for face fixing to buildings with no soffit/eave/roof overhang.

The multi bracket must be bolted in place as per photos below prior to erection. It is also a requirement to fix the multi bracket to the building with 2 x 14-gauge tek screws long enough to protrude 50mm minimum into the structural timber behind the fascia board. Note: this application sits the guardrails further outward from the roof edge. It will be necessary to check that the rails are within the required 100mm from the furthest outward point as per page 9. The gutter is considered the furthest outward point so if the rails are within 100mm of the gutter, they are within specification.



Prior to bracket installation it will be necessary to identify where the fascia board has been fixed to the structural timber. This can be achieved by sighting the filled nail holes as per picture below (left). One of the tek screws must be fixed through this location and protrude at least 50mm into the structural timber.



Multi bracket screwed in place correctly.

Multi bracket fitted for face fixed application - NO vertical pole. This option requires full fixing as per fixing requirement page 24-25

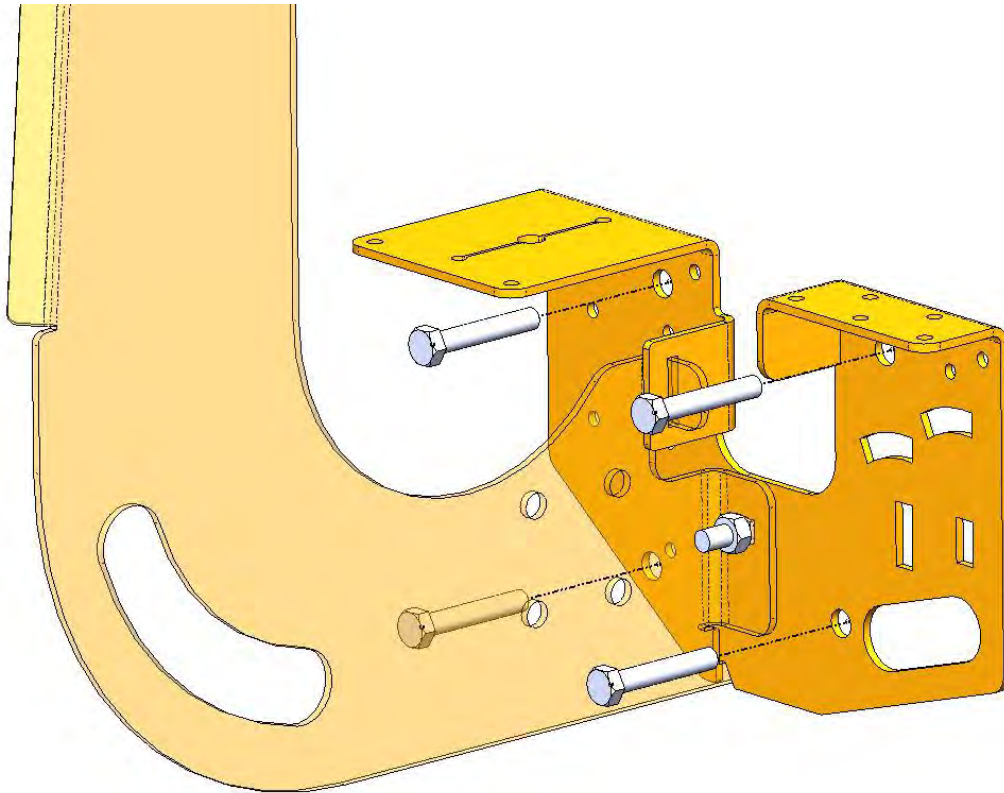
The EBR re roof bracket can also be used as a stand-alone bracket in commercial applications without the vertical support pole down to the ground. This must use the multi bracket and fixings detailed in the EBR Multi Bracket Fixing Requirements on page 24-25.



EBR MULTI BRACKET FIXING REQUIREMENTS

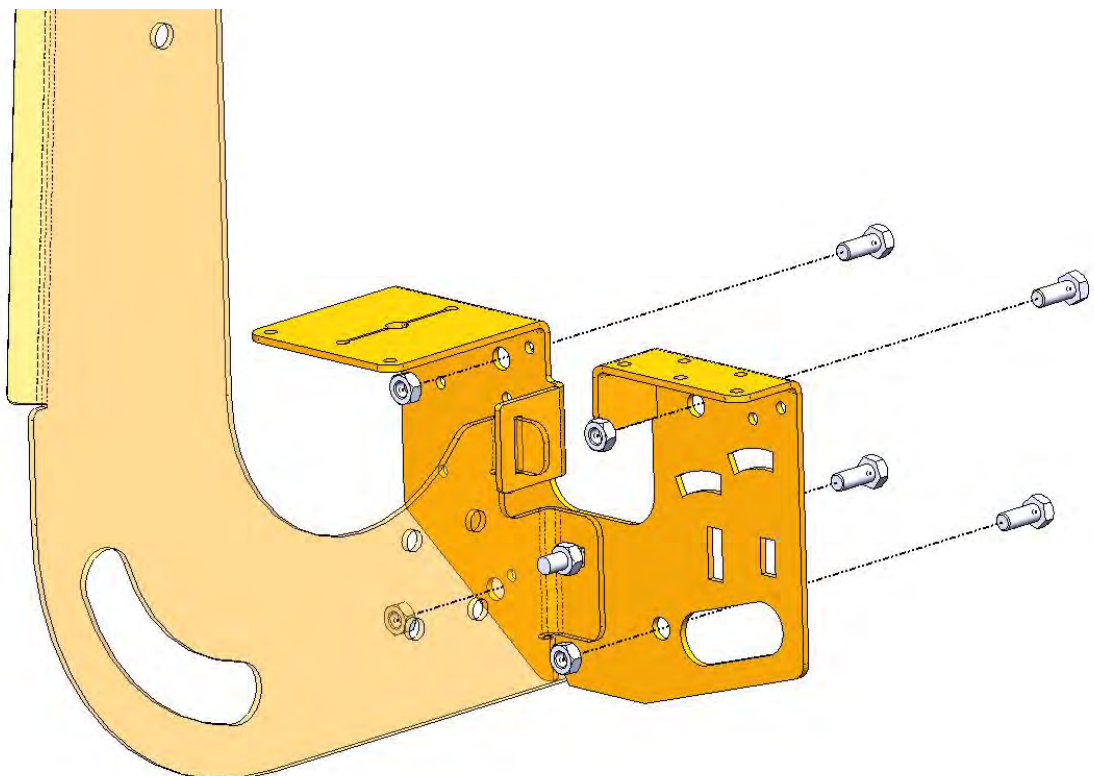
1. SCREWED TO CONCRETE

Fixing requirements are a minimum of 4 x M10 x 60mm screw bolts in the pattern as shown below:



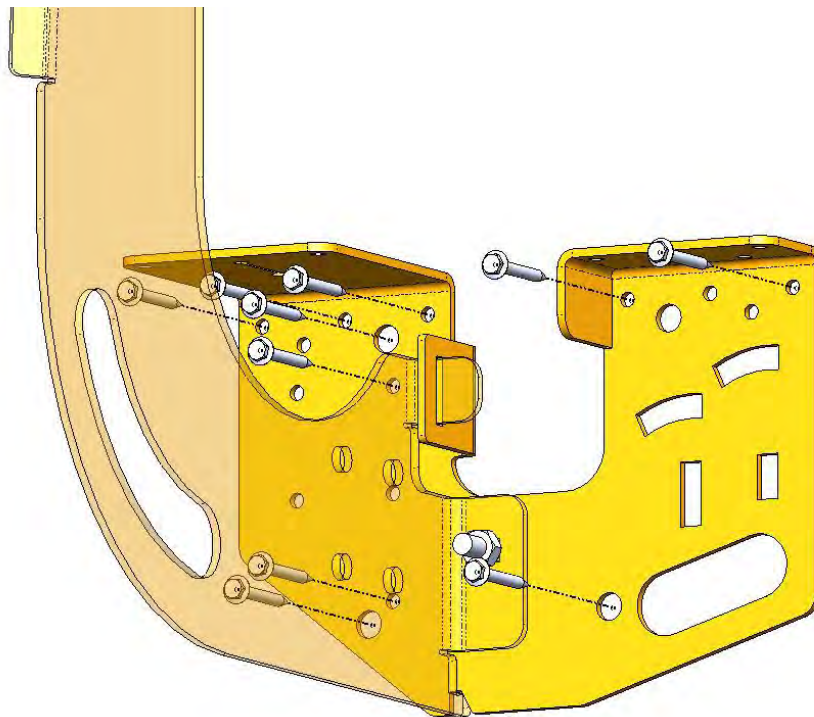
2. BOLTED TO DHS STEEL PURLIN

Fixing requirements are a minimum of 4 x M10 x 25mm coach or machine bolts (grade 4.6 or stronger) in the pattern as shown below:



3. SCREWED TO STRUCTURAL GRADE TIMBER

Fixing requirements are a minimum of 10 x 14-gauge x 50mm timber tek screws in the pattern as shown below:



Handover Certificate.

At the conclusion of the installation process and once a full site inspection/componentry check is complete, it will be necessary to fill out and display a **handover certificate** (copy supplied, also see example on page 28) to be kept on site by the end user for the duration of the job. Ensure the certificate is filled out correctly and signed by the person in charge of installation as well as the end user. (In many cases this person is one and the same). Edge protection left up for a long period of time should be inspected weekly. If the edge protection is up during extreme weather or has been altered by parties other than the original installer, it should be re-inspected prior to use.



Additional Handover certificate packs can be purchased.

DISMANTLING of the edge protection system is a reversal of the afore mentioned procedure.

Transportation of The E Brackets* is a straightforward operation, as they can be stacked either inside a vehicle or on a trailer.

If placed on a trailer, then the brackets should be stacked in such a manner that they can be tied down to the trailer so as to avoid the brackets sliding and causing damage.

If transported inside a vehicle the brackets should be stacked at the lowest point of the vehicle and away from easily damaged items.

Under no circumstances should **The E Brackets*** be transported in the passenger compartment of a vehicle as due to the weight of the stacked items they pose a significant risk of injury or death in a crash.

The E Brackets* should only be lifted no more than two at a time by any able-bodied person. Three or more brackets shall be carried by two persons in a safe manner.

Storage of The E Brackets* is as simple as finding a suitable floor area in a flat and dry environment and laying the brackets on top of each other in a stacked configuration. The half clamps will need to be removed if **The E Brackets*** are to be stacked uniformly for storage.

The E Brackets* should never be stacked off the floor as the weight of a stacked pile could cause significant injury or death if it were to fall from any height.

Maintenance of The E Brackets* is limited to keeping them in their original shape and free from serious corrosion and cracking. After use when the brackets are being stacked in a pile is a good time to check them for shape. Any brackets that are slightly bent can be returned to their original shape by bending or hammering back to original form, however any brackets not able to be returned to their original form or are bent in such a way as to require severe repair or welding should be discarded and replaced.

Any minor corrosion can be mechanically removed and treated with a suitable corrosion inhibitor.

Acceptable configurations.

The E Bracket* EBR can be used on any of the following structure types:

Existing timber framed soffit/eave structures, both flat, sloped and angled (gables) where it can be established that the buildings original undamaged soffit/eave framing or structural timber is in place behind the soffit/eave lining to act as a load bearing member. The soffit/eave lining must also be in place.

New timber wall or roof framing of minimum MGP10 grading or better. No soffit/eave lining required (screw connection recommended).

DHS steel purlin (engineered design). Multi bracket only.

Engineered masonry tilt panels. Minimum 17.5MPA strength. Multi bracket only.

Maximum span between support brackets is 5.4mtr centres with genuine Edge Protection New Zealand Limited aluminium tube. If standard steel scaffolding tube is used, we recommend reducing spacings to 3.6mtr centres and/or using steel tube for the vertical poles only.

Brackets should be installed as set out in this set of instructions and in accordance with AS/NZS4994.2:2009 Standard.

Note: the maximum allowable vertical pole height is 8mtrs. This will allow a maximum reach height of 7.3mtrs from the ground to the fixing point of the bracket.

Limitations.

This edge protection system has been designed and engineered to comply with AS/NZS 4994.1:2009 Standard, Temporary Edge Protection.

Under no circumstances should any part of **The E Bracket*** be modified or altered in any way other than to perform routine maintenance.

Under no circumstances should **The E Bracket*** edge protection system be used for a working platform or have any other member or item other than componentry listed in this document be attached to it by any means or for any other intended purpose.

Exceptions to this limitation can be made for infill panels (if required) as long as these items are fitted in accordance with AS/NZS 4994.1:2009 Standard, Temporary Edge Protection.

Maximum cantilever of rails at corners.

The maximum cantilever of guardrails past the bracket on any internal or external corner shall not exceed 1.4mtrs.

The E Bracket* edge protection system is not to be used on any roof over 35 degrees in pitch. Such roofs require special work skills, equipment and techniques that remain outside the limitations of this product. Edge protection fitted to roof pitches over 26° will require an infill panel protecting the lowest 500mm of the barrier, except that infill panels are not required where the barrier is installed within 1.8mtrs of a roof hip.

Non-compliant tube.

Edge Protection New Zealand Limited takes no responsibility for its customers or anyone else who chooses to use guardrails of an inferior nature. Only compliant galvanised steel scaffold tube and genuine Edge Protection New Zealand Limited 3.2mm wall thickness T6 grade aluminium tube can be verified as meeting test requirements under AS/NZS4994.1:2009 Standard.

PRODUCT/COMPONENTRY LIST

Gate Pack

Gate pack available including all componentry required to fit self-closing inward opening gate to timber or tube rails. See below. 14.7kg.



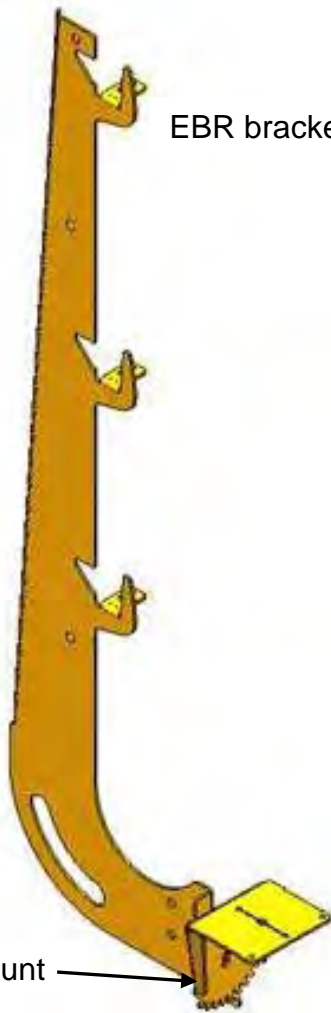
Please note, actual product may differ from that shown.

Ladder Access Arm

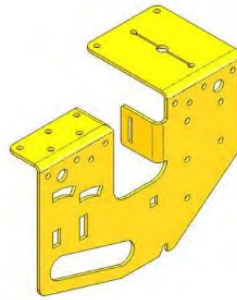
Ladder arm pack available including all componentry required to fit to tube rails. See below. 7.6kg.

Pack Consists of: 1 x Ladder Arm (2-piece assembly)
1 x Shaft Pin
2 x Yellow End Caps
2 x Putlog Couplers
2 x Ladder Clamps





EBR bracket 8.3kg



EBRMB (EBR multi bracket) 2kg



BJACK 3.58kg
(adjustable base jack)

Genuine Edge Protection New Zealand Limited aluminium tube
(can be identified by exclusive markings) 7.48kg per 6mtr length



Foot mount



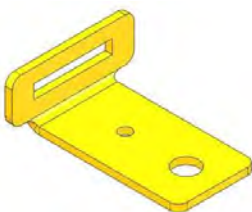
JNR (external joiner) 0.995kg



HC (half clamp) 0.68kg



PL (putlog coupler) 0.63kg



GEM (gable end mount) 0.16kg



SW (swivel coupler) 1.1kg



90DC (90 degree coupler) 1.01kg

Weights may vary slightly

Section E

Extra Information

TOOL INFORMATION

The tool you really want is an “Impact Wrench” as opposed to an “Impact Driver”. The driver still has its uses of course for tek screws into the sole plates and as a backup for the wrench as it can be used with an adaptor to take the half inch drive sockets.

The socket sizes you require are 17mm for the coach bolt and nut x 1 per bracket, and 21mm for the remainder of the componentry supplied in the **Site tool & compliance pack**. The secret is in using the right socket so whereas the 17mm can just be a normal length ½ inch drive item, the 21mm socket should be a deep reach item to take the extra length of thread on the half clamps.

Envire base jack support plates are supplied as a “sole plate”. These are tough & durable composite recycled plastic & sourced in Australia. The Envire range of composite recycled plastic products have a design life of at least 40 years and will save trees, use less energy than steel or concrete manufactured products and divert waste from landfill.

Also, a good idea is a big box of timber packers/wedges to place under the support plates on sloping driveways etc to keep things flat. The white plastic things in the pictures are called Fast Fix Fasteners and are very handy if you need to drill a hole in a soffit/eave to screw the foot mount into place (generally only ever at the base of the gables on a steep roof pitch in the wet) as once the edge protection is dismantled you can chase the hole out a bit bigger and push one of these in to fill the hole, and nobody would ever know there was a screw there. You can get them through hardware suppliers.

Last tip would be to get some large rubber bands from us to place over the brackets and around the clamps to keep them open during assembly so that once you have fitted the uprights you can fit the guardrails easily either from the ground with the Rail racer or by using progressive guardrail installation (PGI) correctly with all of the clamps open and ready to receive the rails. Using a safe lifting device like the Rail Racer is the best practice method of installing the guardrails as you are eliminating a hazard by staying on the ground. Worksafe will be pretty happy if they turn up and see the whole guardrail assembly fitted without any possible chance of a fall from height!

PGI is the next best method as you are fitting your rails whilst remaining behind the guardrail assembly for the duration of the install process. It simply entails fitting the first bay of rails off your ladder prior to getting on the roof then you can get up and complete the remainder of the task from on the roof safely. Remember that you may require a harness and method of travel restraint to perform PGI correctly in some circumstances.

Pole lengths.

The best length for single storey applications is 4.0mtrs which caters for most applications with plenty of tolerance for undulating ground etc. Any higher roofs and you simply revert to the 6mtr lengths i.e. 4.0 + 2.0mtr with external joiner, join should be closer to the ground.

Maximum reach to the underside of the eaves/soffit from the ground with a 6mtr pole is 5.5mtrs. You can extend this by joining a 2.0mtr to the 6mtr pole or 2 x 4.0mtr pole but you must install ‘raker/outriggers’ for extra support when the vertical assembly is over 6mtrs in height.

You will now have a quantity of 6mtr lengths, 4.0mtr lengths, 3.0mtr lengths and 2.0mtr lengths. The 2.0mtr lengths are ideal for short returns and adding onto the longer runs for that little bit of extra reach.

You may find that you require extra componentry in due course such as extra joiners or replacement foot mount pads. All items are available for purchase separately so please let us know if you require anything at all and we can give you a quote.

The Rail Racer.

If you have purchased a rail racer and are struggling with it there is a reason! They need to be within a couple of degrees of 90degrees, as in very close to square on to the rail to grab or release the rail. Once you get the knack you are away laughing so keep trying as I can assure you it makes life a whole heap easier on site.

Disclaimer

The components used with our products are outside the control of Edge Protection New Zealand Limited and Sitetech Distribution Pty Ltd (Australian Distributor), and as such Edge Protection New Zealand Limited and Sitetech Distribution Pty Ltd (Australian Distributor), will not be liable to anyone in respect of any loss, damage, injury or expense, suffered or incurred as a result of not following the correct installation instructions provided, or adhering to the relevant industry requirements/Good Practice Guidelines. Also, modifying/using componentry not supplied by Edge Protection New Zealand Limited or Sitetech Distribution Pty Ltd (Australian Distributor), that does not comply with the relevant current Australian/New Zealand Standards including AS/NZS1576.2:2009, Edge Protection New Zealand Limited or Sitetech Distribution Pty Ltd (Australian Distributor), will not be liable.

The contents of this leaflet must not be construed as legal advice.

* **The E Bracket** is a Registered Trademark. Number 1026880.

NZ Patent Number 604722

NZ Design Registration Numbers 416515, 626508, 420893

AUS Patent Number 2013204162

International Patents Pending.

** **The Rail Racer** Patent App. Number 736036 Design Reg. Number 423563

AUS Patent App. Number 2018232896

International Patents Pending.

We hope these instructions were informative. Should you require further assistance, or you wish to purchase more product, please do not hesitate to contact us.

HANDOVER CERTIFICATE (example only)

ROOF EDGE PROTECTION – COMPLETION OF INSTALLATION

Issue Date: [date of installation]

No: [job or reference number]

Inspection Date: .../.../...

Time:am/pm

Person or organisation requiring the roof edge protection:

Name: [insert person/company/ name requiring the edge protection]

Address: [insert the address of the person/company/ requiring the edge protection]

..... Site

address: [address where the edge protection is installed]

.....

Location on site: Roof perimeter

Installer organisation name: [name of person/company who has installed the edge protection]

Phone No:

.....

Address: [address of the person/company who installed the edge protection]

.....

Type of roof edge protection: Prefabricated proprietary system

Name of system: E Bracket®

Name of person in charge of installation: [name of person who installed and checked the edge protection]

Installer's statement:

All relevant inspections and checks have been carried out prior to the issue of this Certificate.

Certified issued on behalf of: [insert the name of the person/company/ who installed the edge protection]

By:

.....

(Print Name)

(Signature)

Certified received on behalf of: [insert the name of the person/company/ requiring the edge protection]

By:

.....

(Print Name)

(Signature)

HANDOVER CERTIFICATE

ROOF EDGE PROTECTION – COMPLETION OF INSTALLATION

Issue Date:

No:

Inspection Date: .../.../...

Time:am/pm

Person or organisation requiring the roof edge protection:

Name:

Address:

.....

Site address:

.....

Location on site:

Installer organisation name:

Phone No:

Address:

.....

Type of roof edge protection: Prefabricated proprietary system

Name of system: E Bracket®

Name of person in charge of installation:

Installer's statement:

All relevant inspections and checks have been carried out prior to the issue of this Certificate.

Certified issued on behalf of:

By:

.....

(Print Name)

(Signature)

Certified received on behalf of:

.....

By:

.....

(Print Name)

(Signature)