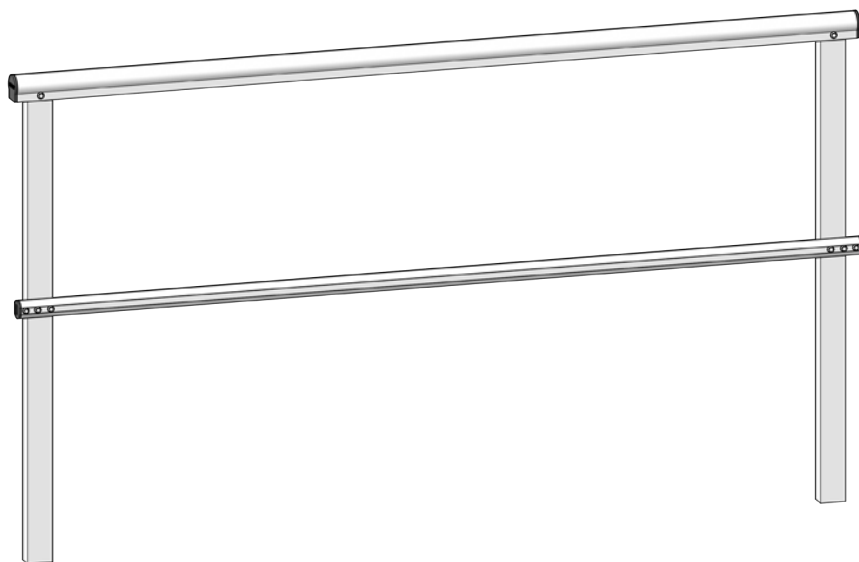


INSTALLATION MANUAL

# ROOFTOP GUARDRAIL

GR



## **⚠ WARNING**

Read this manual before installing, maintaining or allowing personnel to use the product. If it is necessary to deviate from the instructions in this manual, contact Kattsafe to ensure that it does not compromise the safety and integrity of the installation.

This manual contains important use and maintenance information. Leave this manual with the facility manager/owner.

Improper selection, installation, maintenance, or use of this product presents a risk of serious injury or death.

## IMPORTANT SAFETY INFORMATION

Improper selection, installation, maintenance or use of this equipment presents a risk of serious injury or death. To reduce these risks, follow the instructions in this document, as well as the following precautions:

### Qualifications

1. A competent person or structural engineer must evaluate the integrity and suitability of the fixing and support structure to which this system will be attached and ensure that the structure will sustain the necessary design loads. Remove decorative coating and coverings to ensure correct evaluation of structure.
2. Installers must be competent persons trained (including OSHA 10 or 30 hour courses) in the selection, installation, use and maintenance of access and fall protection systems. This includes possessing valid industry licenses and having comprehensive knowledge of the relevant standards, codes, and guidelines (including relevant OSHA standards).
3. Ensure that the product is used and maintained by authorized, competent, trained personnel only.
4. Any re-routing of electrical or other services must be carried out by qualified and authorized personnel.

### Preparing for a Safe Installation

1. The Installer is responsible for following all applicable requirements for occupational safety and health during installation, including:
  - a. Conducting an initial work/risk assessment
  - b. Completing all necessary safety documentation, such as a job safety analysis or work method statement
  - c. Taking appropriate precautions during the installation of this product, and
  - d. Obtaining consent from a responsible person at the workplace prior to work
  - e. Any re-routing of electrical and/or other services must be carried out by qualified or authorized personnel
2. Use appropriate temporary access and safety equipment during installation, such as platform ladders or scaffolding and fall protection anchorage points.
3. At least two installers must be present during installation, in case of emergency.

### Installation Requirements

Ensure support structure to which system is attached or installed on, will sustain necessary design loads. (Prior approval may be required from a qualified engineer unless it is clear to a competent person that the structure is adequate.)

Guardrail must never be used for tie off purpose or in anyway different from its intended use.

Specific to Kattsafe GR34 Freestanding Guardrail

- a. Kattsafe GR34 Freestanding Guardrail cannot be installed on roof slopes of 1:12 or greater. Large, sloped membrane roofs with a gutter edge can generate large volumes of water run-off during adverse weather. The GR36 system is best suited for these applications.
- b. When there is no parapet or small wall, the GR34 Bases should be set back at least 2ft from the roof edge and an EPDM roof pad should be used for additional slip resistance
- c. Roof surfaces must be evaluated prior to install to ensure the bases are not installed on top of gravel or slippery surfaces
- d. A 5ft return kit (outrigger) must be placed at the end of any open ended guardrail system regardless of length. If there is no 5ft return kit, the rail must be securely terminated and fastened into either a wall, ladder or other equipment.
- e. Where possible, install a roof pad under each base to further protect the roof system. Refer to note 'b'
- f. Weighted bases must be lifted by two people and the handles provided must be used for lifting
- g. Weighted bases must never be used for tie off purposes or in anyway different from their intended use
- h. Do not install the weighted base when there is ice or snow on the roof. Ensure the surface is cleared and dry before locating in position
- i. We do not recommend the GR34 System being installed on roofs 60ft or higher where there is no parapet or wall. The GR36 system should be used in these applications
- j. Due to increased wind resistance, Toeboard is not recommended on GR34 systems where there is no parapet or small wall. due to the increased wind resistance.
- k. Never mount anything additional to the GR34 system unless approved by the manufacturer.
- l. Standard wind load rating is 70mph. Do not use if potential exists for exposure to wind gusts greater than 70mph. Specific engineering can be performed and provided on a per project basis where higher wind load ratings are required. A cost may apply.

### Modification

Do not modify or remove any element of the support structure without prior authorization by the manufacturer or a qualified engineer. There should be no item or system mounted, connected, or supported by these guardrail systems.

Do not tamper with, modify, alter or remove any part of this product unless authorized by Kattsafe.

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 authorized or approved by a competent person.

**Product Use**

Do not use when working alone, in case of an emergency that requires help. If the guardrail is subjected to abnormal loading, do not use until replaced or re-certified by a competent person.

**Must Read Prior to Use**

In order to maintain the product warranty, Kattsafe labels must be placed at points of access or in highly visible areas. There are (2) labels provided with every installation kit.

**Tools Required**

- Impact Drill
- 9/16” Ratchet and Sprocket
- 5/16” Driver (For Impact Drill)
- Circular Saw with Aluminum Cutting Blade (Not a Diamond Blade)
- Tape Measure
- Sharpie
- Speed Square

**Kattsafe Fixing Kit**

Please note that a ‘Kattsafe Fixing Kit’ is supplied with every guardrail system. This kit includes a 5/16” nutsetter, file, mid-rail installation brackets, labels and base handles (for GR34 system).

**Kattsafe Expansion Joint Kit**

Please note that a ‘Kattsafe Expansion Joint Kit (GR.EXP)’ is supplied with every guardrail system starting at 30ft. This kit includes a top rail and mid rail expansion joint and (4) tek screws. Please reference the below Table (A) for the number of expansion joints required for your system. Reference page (39) for GR.EXP installation instructions.

**Table (A)**

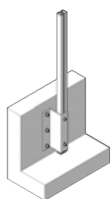
Expansion Joint Table	
Guardrail Length	Expansion Joints Required
30-100 ft	1
100 - 200 ft	2
200 - 300 ft	3

Must allow 1 expansion joint for every 100ft of guardrail.

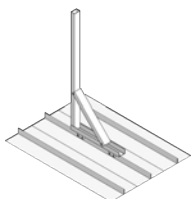
**Warranty**



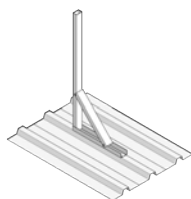
Scan to view the warranty on our website.



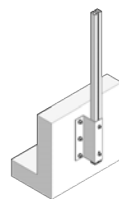
GR31 Internal Wall Mount  
Page (13)



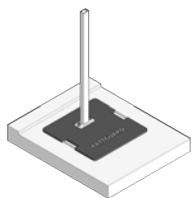
GR32 Standing Seam  
Page (16)



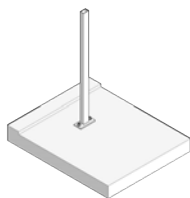
GR32 R-Panel  
Page (21)



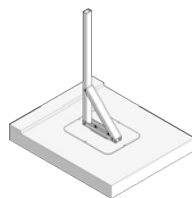
GR33 External Wall Mount  
Page (26)



GR34 Non-Penetrating  
Page (29)



GR35 Top Mount  
Page (32)



GR36 Surface Mount  
Page (34)

1

Install the bases as per the system base installation instructions that can be found on the specific pages below.

GR31 - Internal Wall Mount Guardrail - page (13)

GR32 - Metal Roof Mount Guardrail (standing seam roof) - page (16)

GR32 - Metal Roof Mount Guardrail (R panel) - page (21)

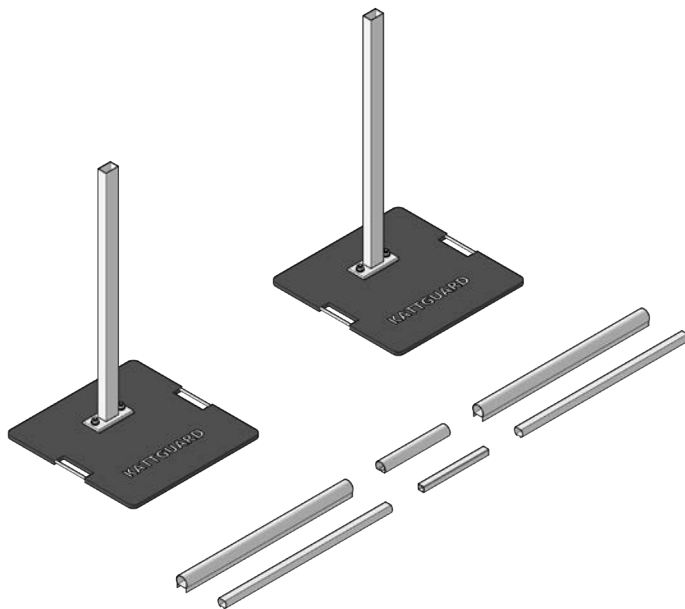
GR33 - External Wall Mount Guardrail - page (26)

GR35 - Top Mount Guardrail - page (29)

GR34 - Non-penetrating roof guardrail - page (32)

GR36 - Membrane surface mount guardrail system - page (34)

GR34 Base shown for  
illustration purposes.



2

Once the mounting plate/bases and posts are installed, the next stage is to start laying out the top rail, mid rail, and splice joins alongside the base/mounting plates. The top rail will be the first section to install.

For a flush finish, please see  
Step 8 on page (7)



3

Place the top rail on the top of the posts. Where possible, ensure the top rail is cut flush with the starting post. Please see step 8 in order to install the end cap prior to mounting the top rail to the post.

For corners, ensure that there is a maximum 12in cantilever.

The max spacing between posts is specific for each kit. Please reference the specific base installation page for max spacing requirements. Ensure you are within the regulations of local OSHA standards. For example: our GR34 system can have a max spacing of 10' between posts, but in California, CalOSHA will only allow a max spacing of 8' between posts.

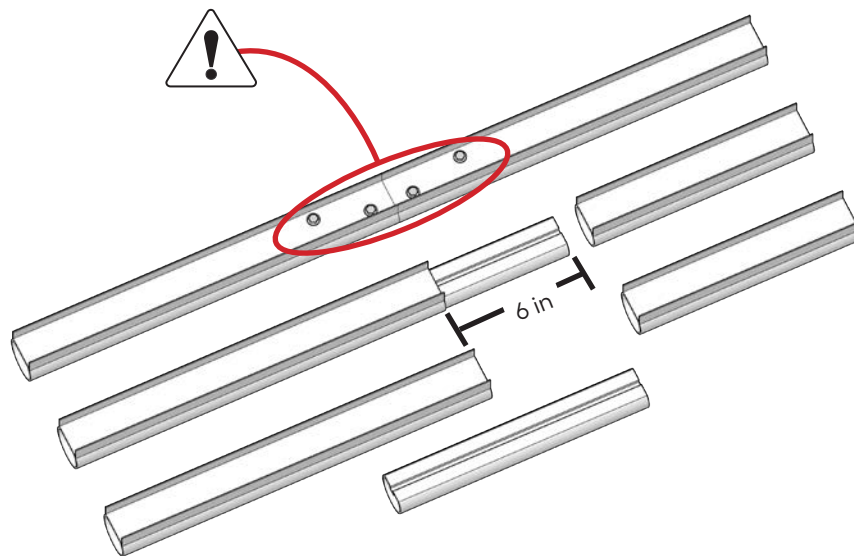
GR31/GR33 - 8ft max spacing

GR32 - 8ft max spacing

GR34 - 10ft max spacing

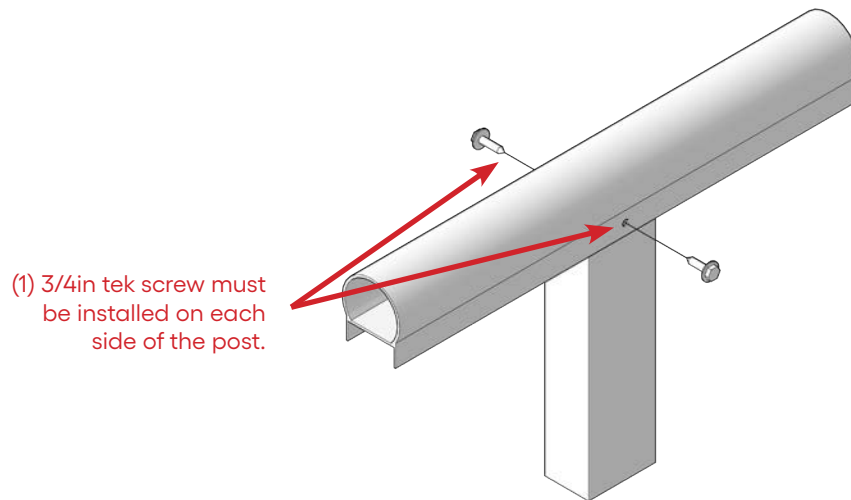
GR35 - 8ft max spacing

GR36 - 10ft max spacing



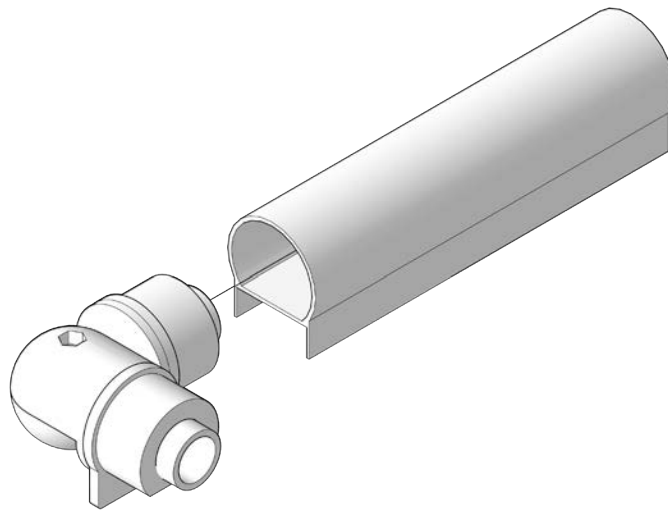
4

To connect the top rail together, insert the splice join halfway into the end of the top rail. On the underside of the top rail, fasten the splice join using (4) 3/4in S/S tek screws. Ensure (2) tek screws on each side of the splice join connection.



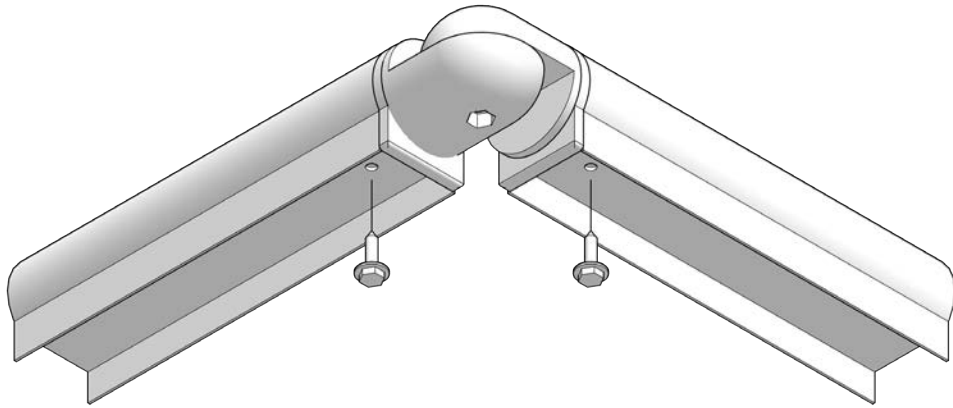
5

Fasten the top rail to the post with (2) 3/4in S/S tek screws. Install one tek screw on each side of the post. Use the groove on top rail for screw placement.



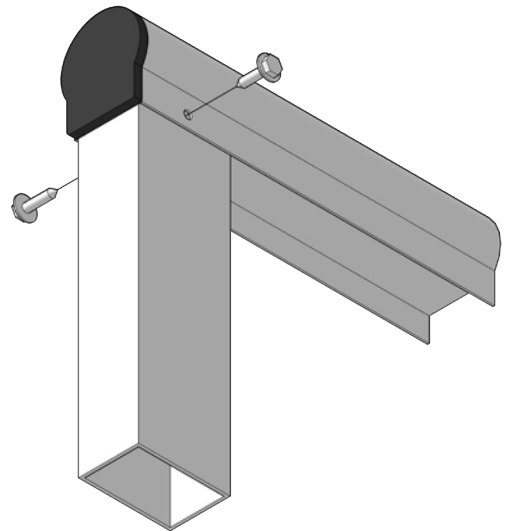
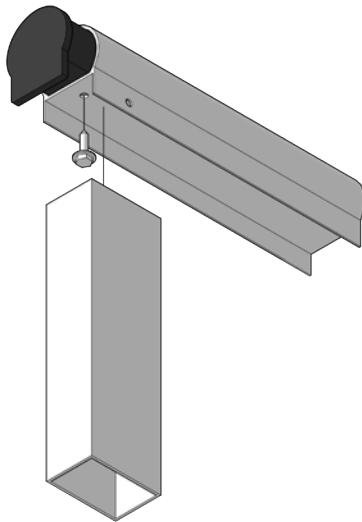
6

Insert top rail adjustable elbows and rotate to the correct angle required.



7

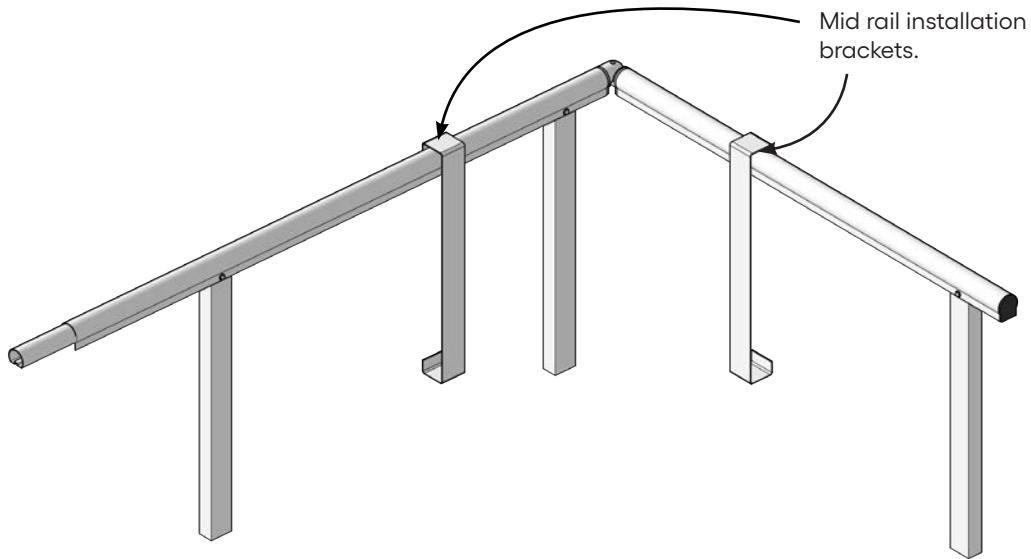
Secure the adjustable elbows on the bottom side of the top rail with (2) 3/4in S/S tek screws. One screw on each side of the elbow. Center the screws on the bottom side of the top rail.



8

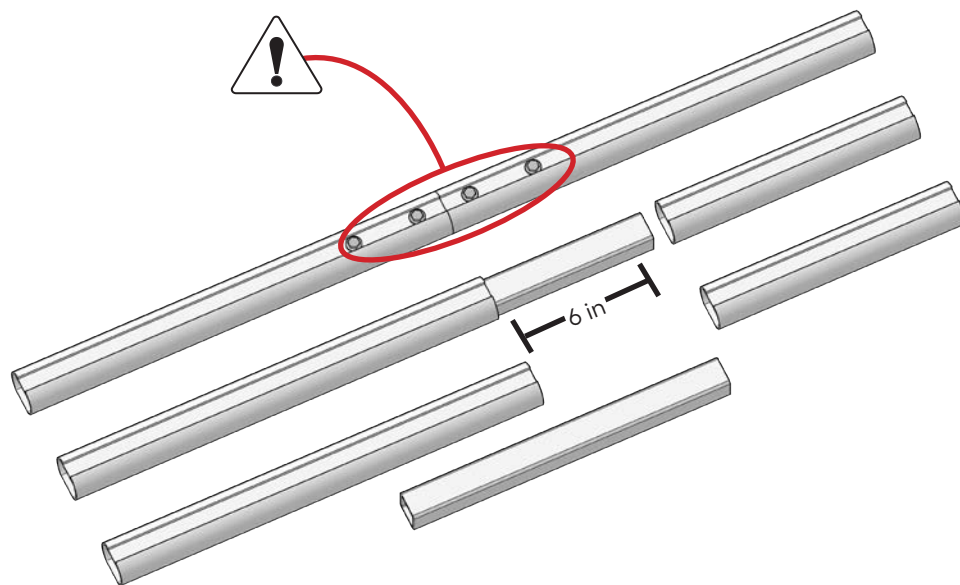
Insert the top rail end cap and secure it with (1) 3/4in S/S tek screw on the bottom side of the top rail.

NOTE: For a flush finish, insert and fasten the end cap on the top rail prior to securing the top rail to the post.



9

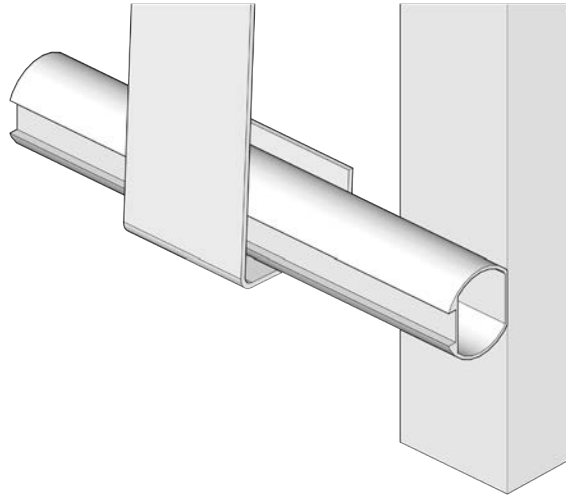
Use the provided mid rail installation brackets to install the mid rail. This will ensure consistent spacing between the mid rail and top rail. Start mid rail installation from return post to ensure proper alignment on corners. Mid rail must be on the inside of the guardrail system with the flat end against the post.



10

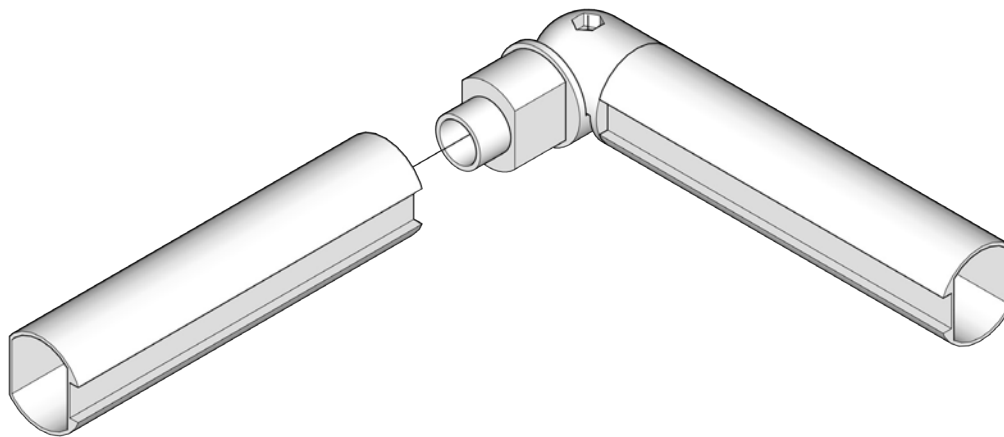
To connect the mid rail, insert the splice join halfway in on the end. Fasten the splice join using (4) 3/4in S/S tek screws per splice. Fasten (2) tek screws on each half of the splice join.

Ensure that the mid rails are tightly together before fastening the final two screws.



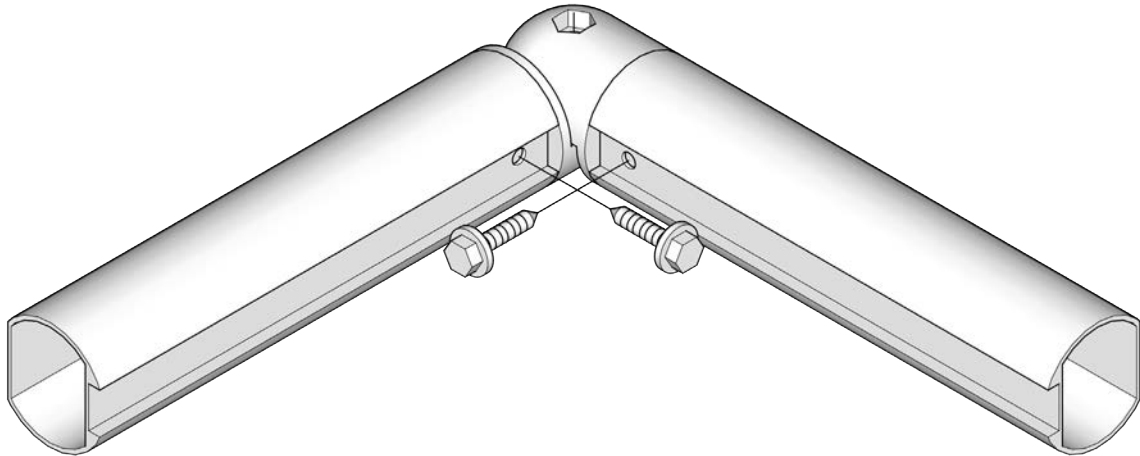
11

Start mid rail installation from the return post (or end post) to ensure proper alignment on corners. Mid rail must be installed on the inside of the post with the flat end against the post.



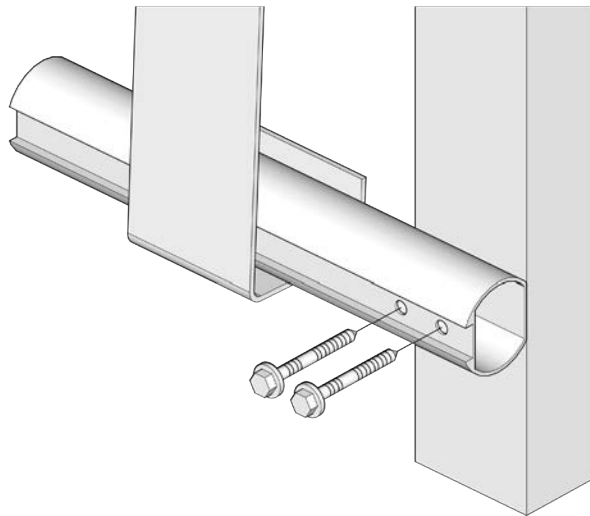
12

Insert mid rail adjustable elbow and rotate to correct angle required to join the next run of mid rail.



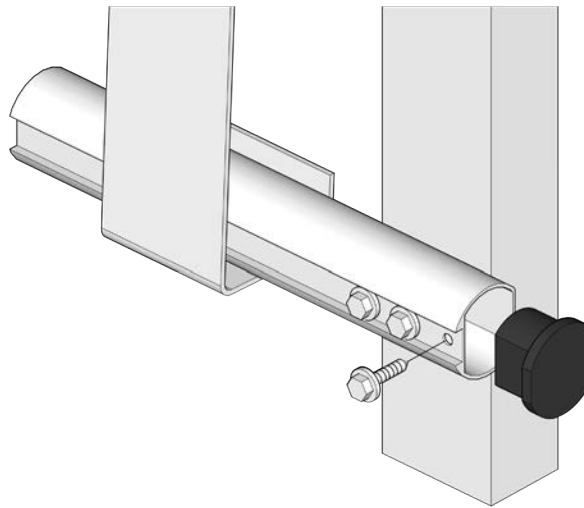
13

Secure the mid rail adjustable elbows with (2) 3/4in S/S tek screws. One on each side of the mid rail elbow.

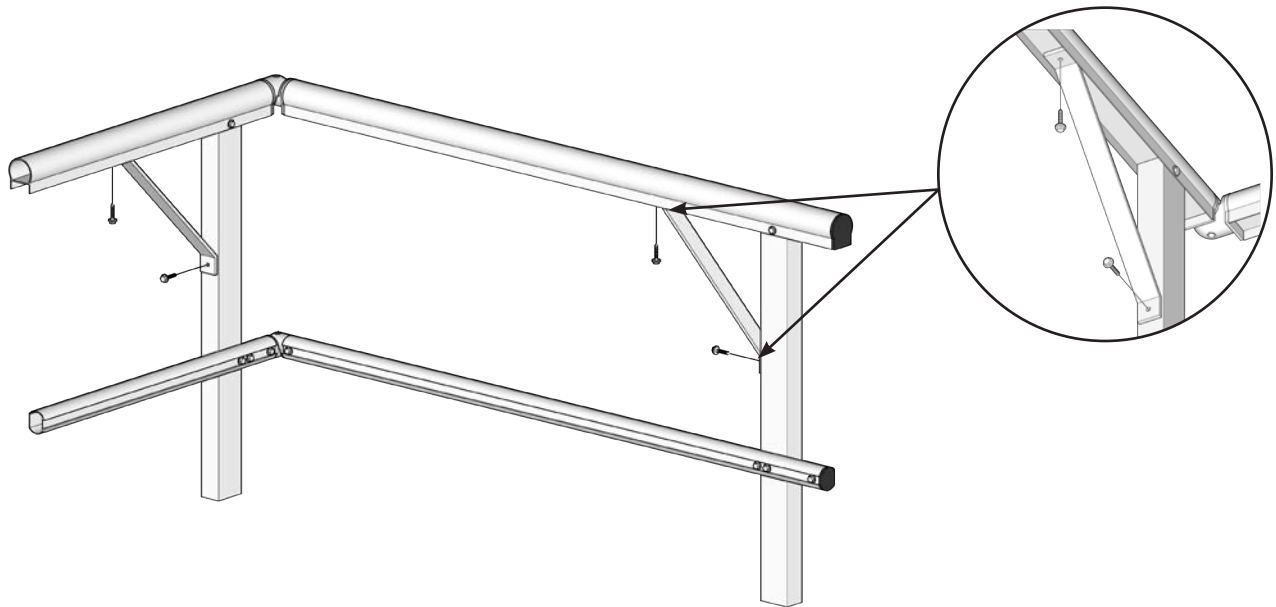


14

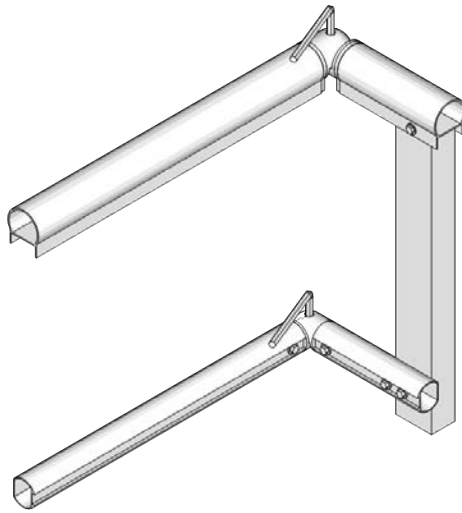
Square up the mid rail to the post and fasten with (2) 2in S/S tek screws.



- 15** Insert the mid rail end cap and secure with (1) 3/4in S/S screw. Fasten the end of the mid rail run to the post in the same manner as the previous step. Remove mid rail installation brackets once midrail is secured in place.

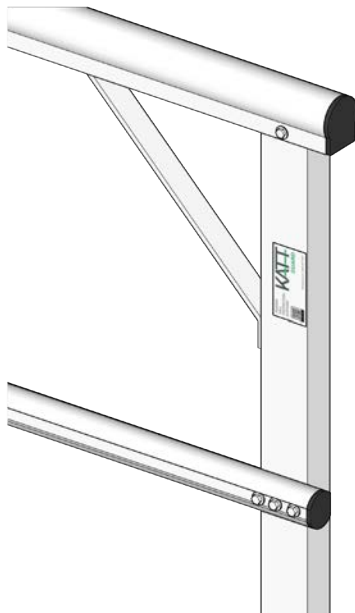


- 16** Install the guardrail brace at any corner or termination. Fasten with (2) 3/4in S/S tek screws through the pre drilled holes of the brace. The braces must be installed to maintain system warranty.



17

Tighten all adjustable elbows with the provided allen wrench.



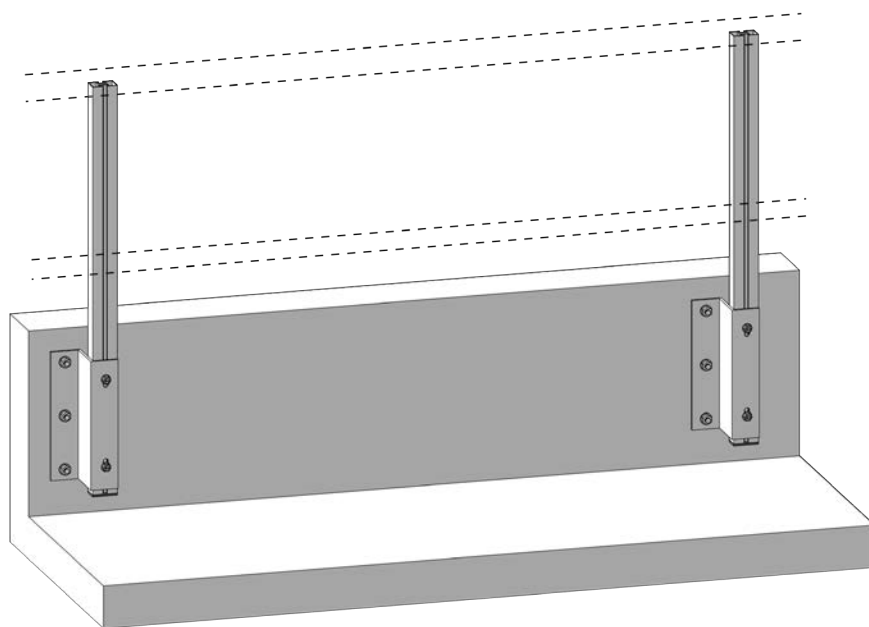
18

In order to maintain the product warranty, Kattsafe labels must be placed at points of access or in highly visible areas. There are (2) labels provided with every installation kit.

## INSTALLATION MANUAL

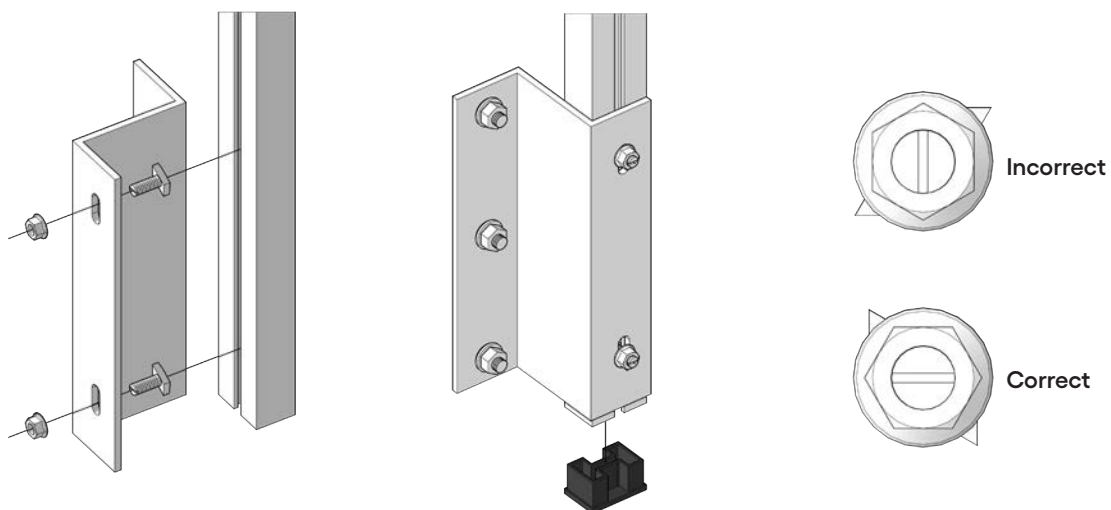
# INTERNAL WALL MOUNT POST

GR31



### HARDWARE REQUIREMENTS

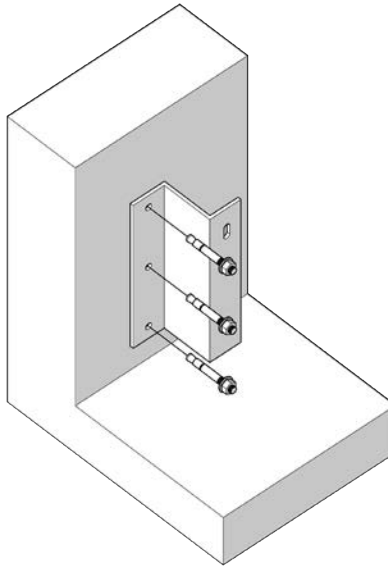
- Precast concrete - EP1001 VF200PRO Epoxy or HILTI HIT-HY-70 injectable Mortar and (3) 3/8in S/S anchor rods, washers, and nuts
- Hollow core concrete & brick - EP1001 VF200PRO Epoxy or HILTI HIT-HY-70 injectable mortar, composite sleeve and (3) 3/8in S/S anchor rods, washers, and nuts
- Steel - (3) S/S 3/8in mechanical bolt/toggle assembly. Must be mounted into structure



3

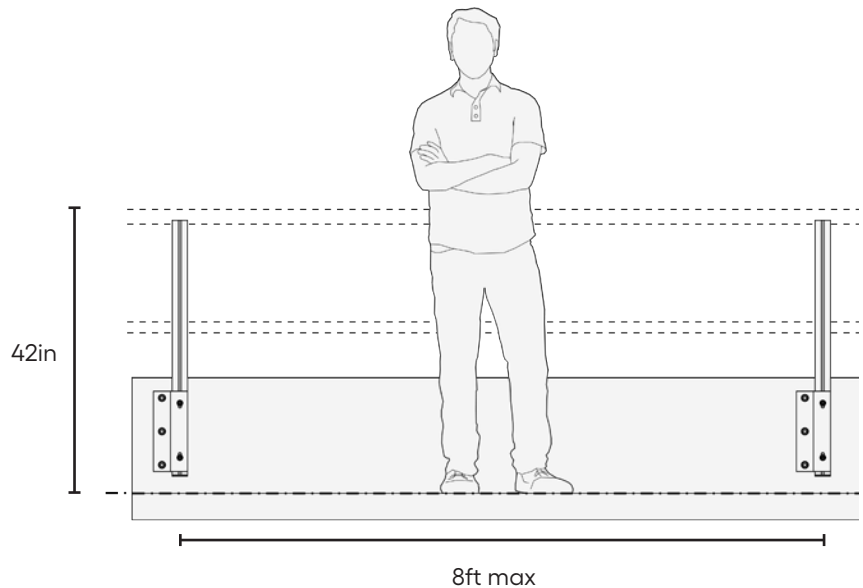
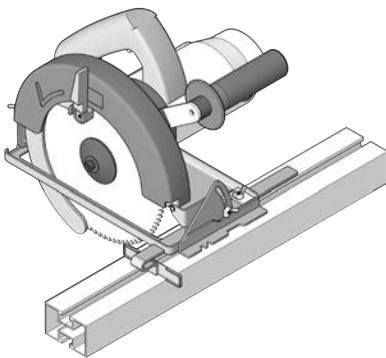
Mount the post to the wall bracket using (2) 1/2in T-Bolts (supplied by Kattsafe). Ensure the bolt slot is horizontal to the post. Insert the end cap into the base of the post extrusion.

Return to page (4) for railing assembly instructions.



1

Fasten the wall bracket to the internal wall using the recommended hardware. Ensure the bracket is level prior to mounting. Ensure brackets are mounted at a maximum of 8ft spacing. Follow standard practice and roofing manufacturer guidelines for waterproofing. There must be a minimum of (3) anchors per wall bracket.



2

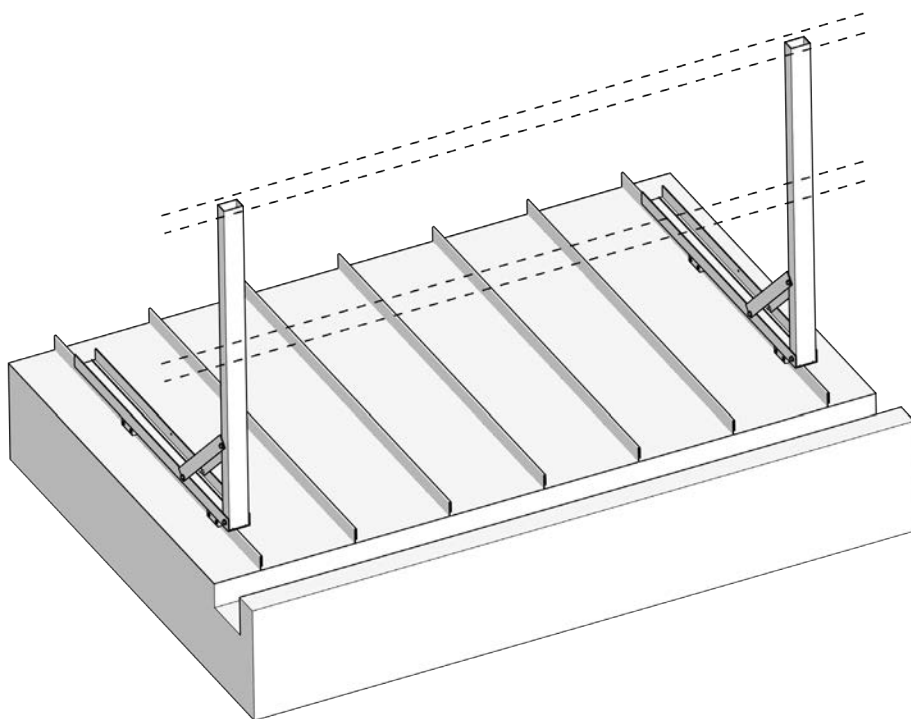
Posts are supplied in 3.5ft (42in) lengths as standard. The post will possibly need to be cut down to ensure the top rail is 42in (+/-3in) above the walking/working surface. Use a circular saw with an aluminum blade.

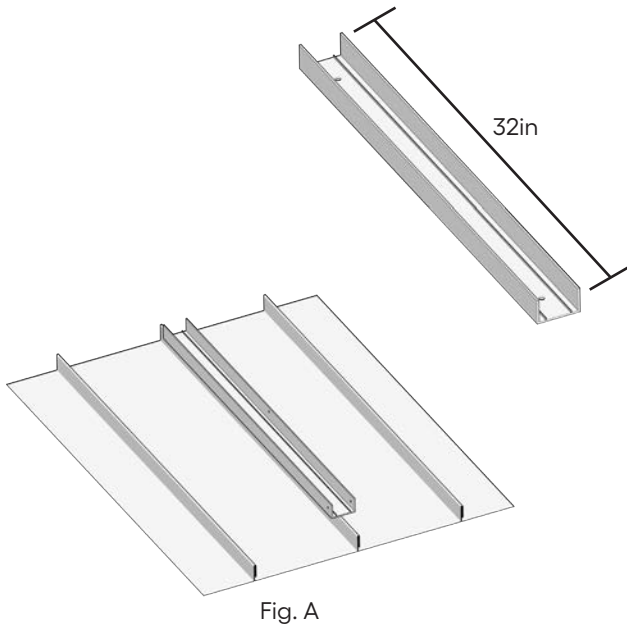
a. **IMPORTANT NOTE:** The top rail adds approximately 1-3/4in to the total post height.

INSTALLATION MANUAL

# METAL ROOF MOUNT - STANDING SEAM

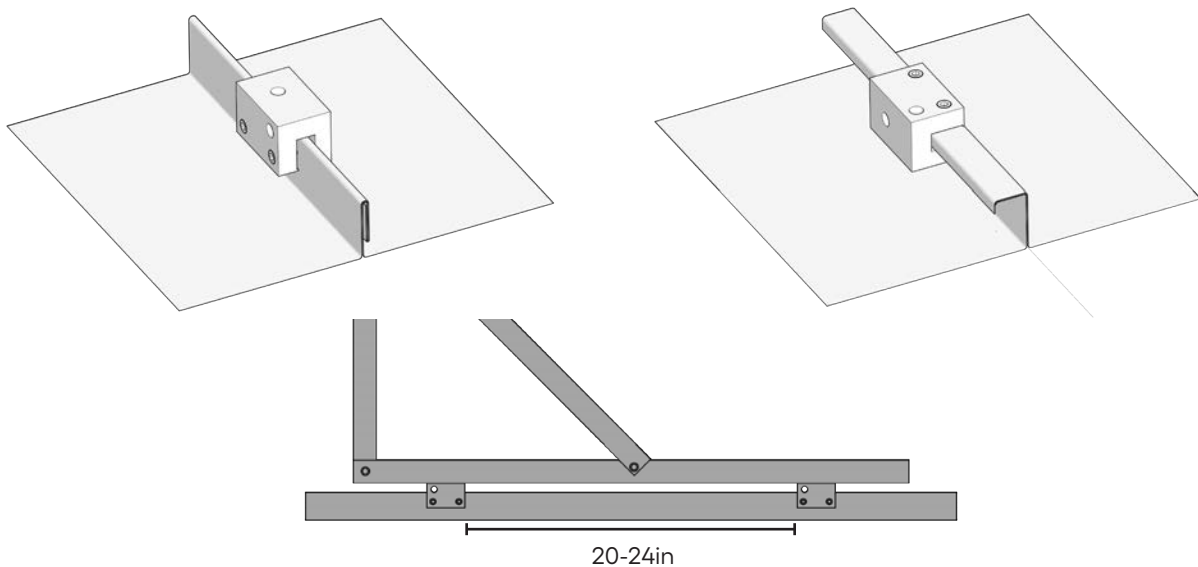
GR32





1

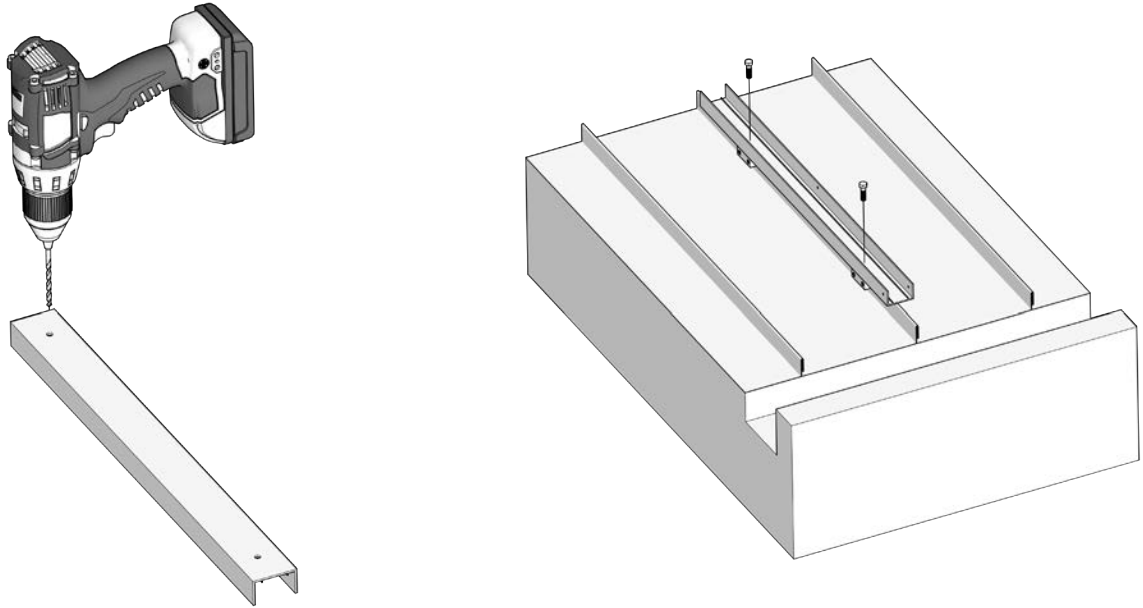
Locate the post kit base channel (32in length). This channel must be positioned 90 degrees to the roof edge. Depending on the orientation of the standing seam roof, the channel may be mounted on top of a seam (Fig. A), alternatively it could be spanning between (2) seams (Fig. B). This channel will be mounted using the seam clamps as per the following steps.



2

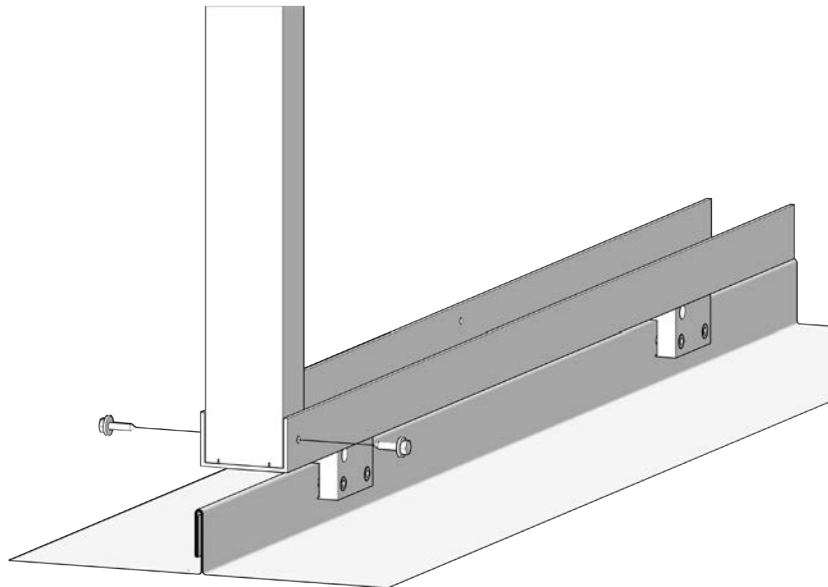
Place the standing seam clamps over the standing seam and fasten down with the fastening set screws. These typically are mounted 20-24in apart. There must be (2) clamps per base channel. Be sure that the clamp grips the lip of the standing seam. The image above shows horizontal fastening. Typical fastening is vertical. Some standing seam profiles require alternative clamp designs. Please reference the clamp manufacturers installation guidelines.

**IMPORTANT NOTE:** Locate the post no closer than 6in from the standing seam roof edge.



3

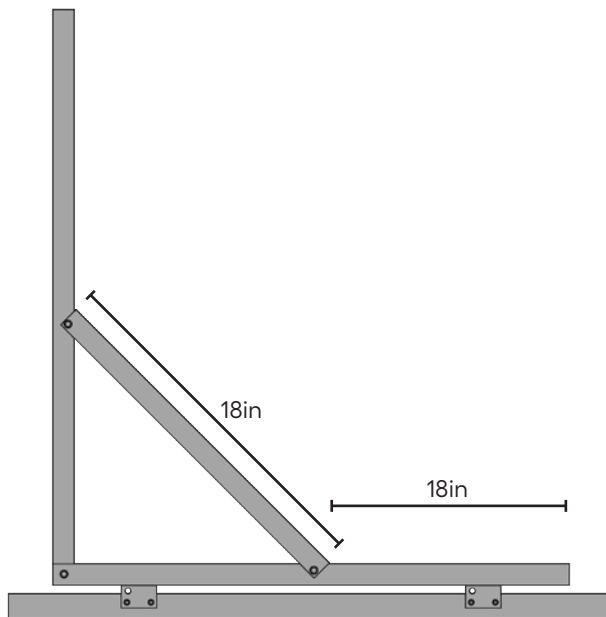
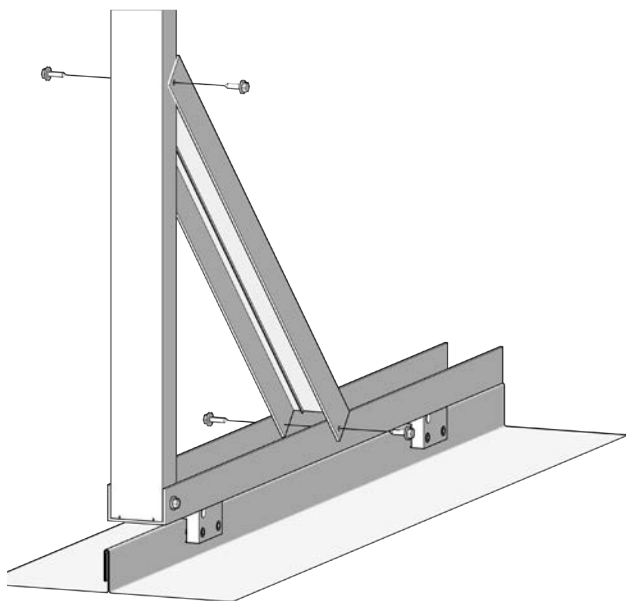
Once the (2) seam clamps are securely mounted, place the 32in base channel on top of the clamps and mark where the holes need to be drilled for the S/S bolts. Drill the holes in the center of the channel using a 3/8in drill bit. Mount the channel to the clamps with the S/S bolts.



4

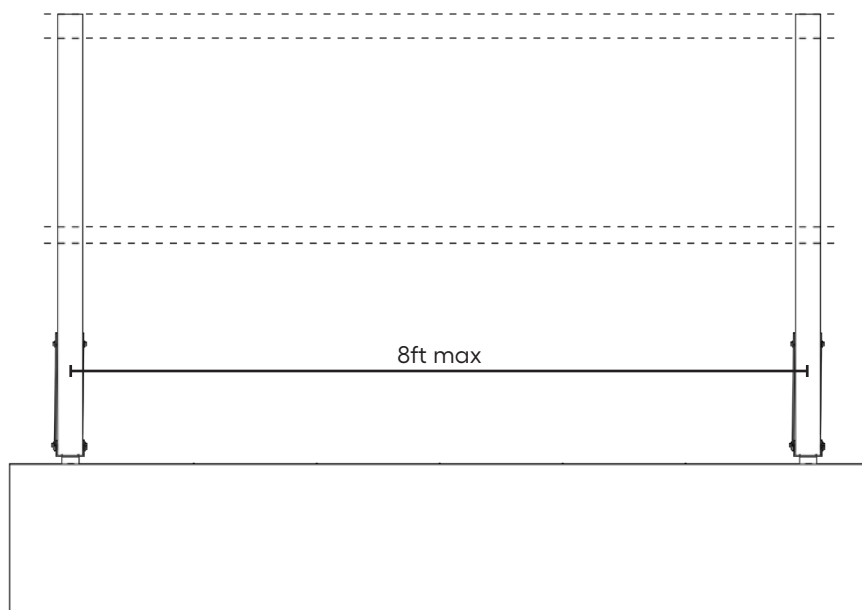
The next step is to insert the rectangular aluminum post at the end of the channel nearest to the roof edge. Ensure the post is vertically level and fasten using (2) 3/4in S/S Tek Screws. There must be (1) on each side of the post. You can use the grooves of the channel for screw placement.

**IMPORTANT NOTE:** Ensure the height of the post (plus the top rail (1-3/4in)) results in a total height of 42in +/- 3in. Some seams vary in height which could result in the post needing to be trimmed slightly. Slight trimming may also be needed to ensure a consistent and level top rail. Please note that posts can be slightly angled on sloped roof applications.



5

Locate the brace channel (18in long). Ensure the post is level. Mount the brace channel 18in from the end of the base channel. You can use the 18in long brace to mark this point. Fasten the diagonal brace channel with a total of (4) 3/4in S/S Tek screws. See illustration above.



6

Maximum spacing between posts must not exceed 8ft.

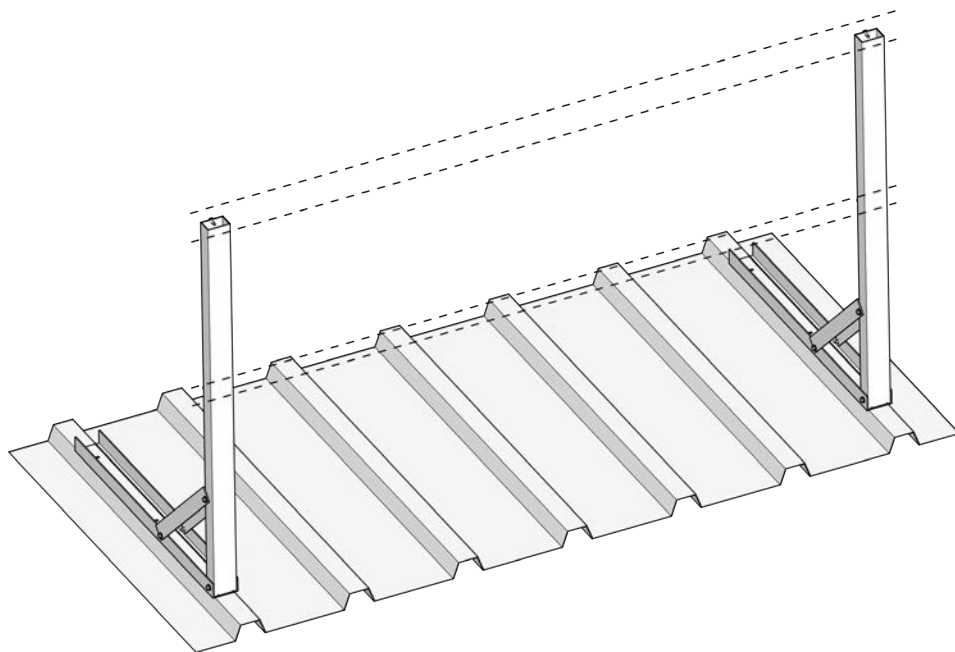
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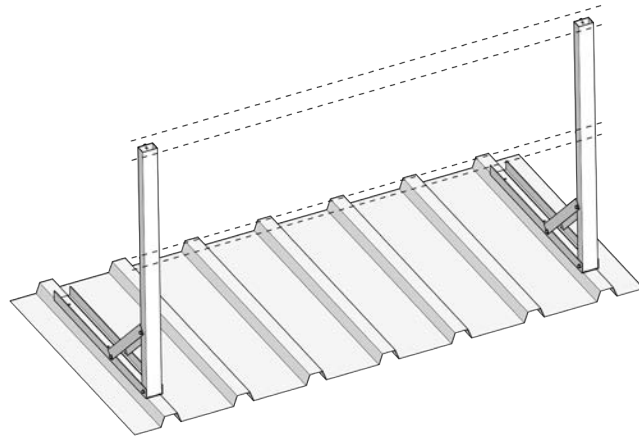
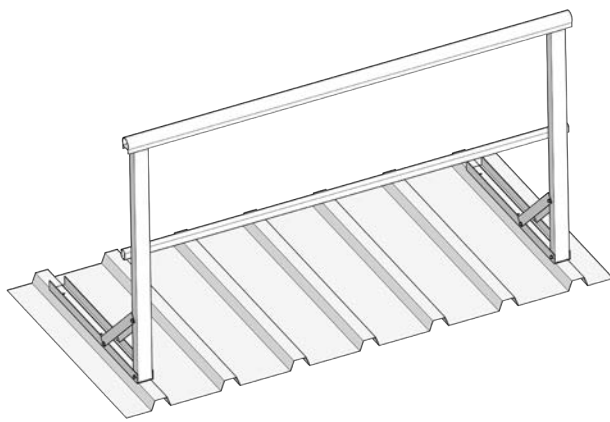
Return to page (4) for railing assembly instructions.

INSTALLATION MANUAL

# METAL ROOF MOUNT - R-PANEL

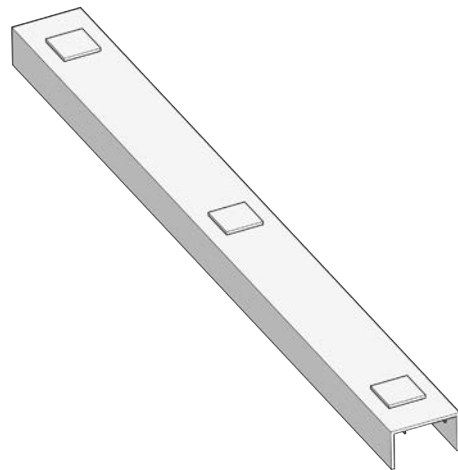
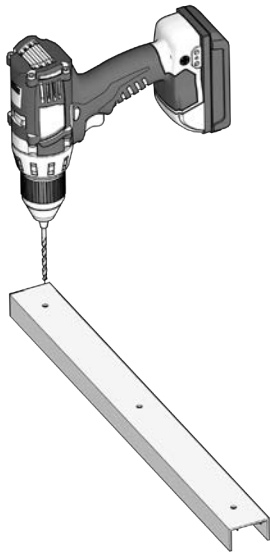
GR32





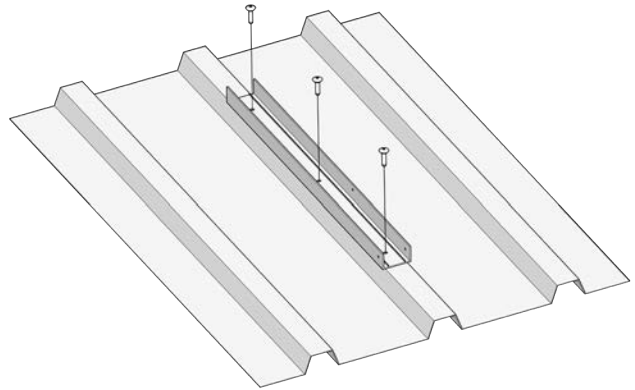
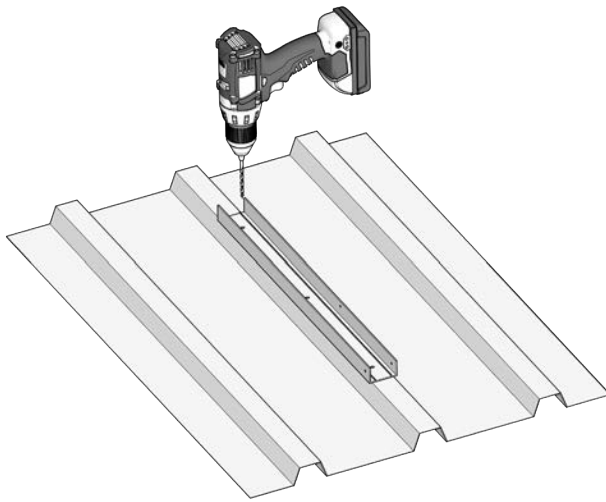
1

Locate the post kit base channel (32in length). This channel must be positioned 90 degrees to the roof edge. Depending on the orientation of the R Panel roof, the channel may be mounted perpendicular with the flange, alternatively it could be spanning horizontally to the deck flange. Either way, it should be mounted on the flange, not in the flute (lower section). See illustration above.



2

There must be a minimum of (3) SD914 5/16in (8mm) aluminum rivets per base channel. Drill (3) holes using a 5/16in drill bit. Typical hole spacing is 2in in from each end and then one centered. Ensure these line up with the flanges if the channel is perpendicular to the flange. To maintain a watertight seal, a SD902 Foam Seal must be applied to the base of the channel under each drilled hole.

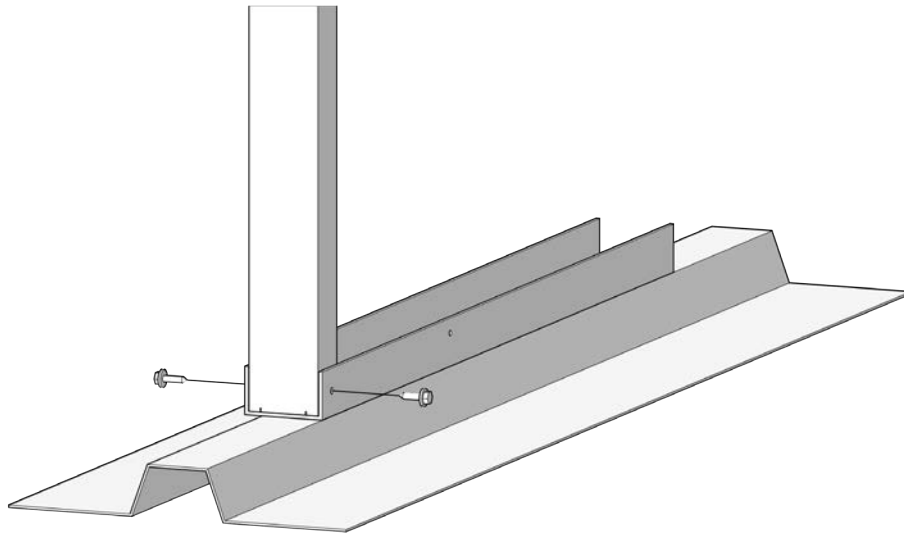


# 3

Place the channel on top of the flange and ensure it is aligned correctly. Then using a 5/16in drill bit, drill through the holes, EPDM seals and into the metal deck flange. Then insert the rivets and securely fasten using a riveting tool.

**IMPORTANT NOTES:**

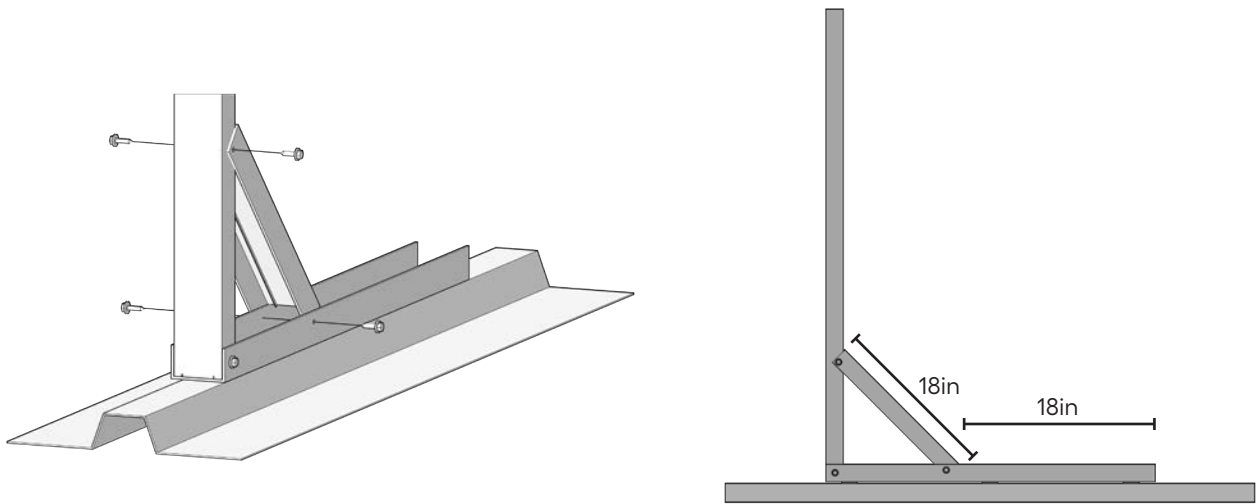
- a. Locate the post no closer than 6in from the roof edge.
- b. Minimum of (3) of the SD914 5/16in Aluminum Rivets



# 4

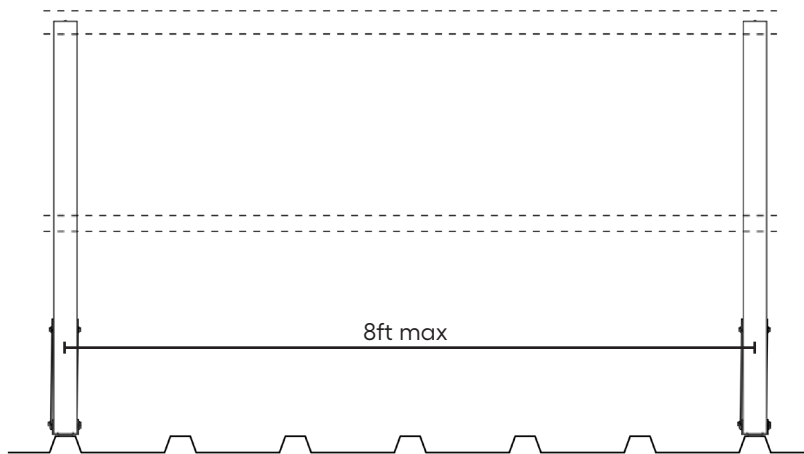
The next step is to insert the rectangular aluminum post at the end of the channel nearest to the roof edge. Ensure the post is vertically level and fasten using (2) 3/4in S/S Tek Screws. There must be (1) on each side of the post. You can use the grooves of the channel for screw placement.

**IMPORTANT NOTE:** Ensure the height of the post (plus the top rail (1-3/4in)) results in a total height of 42in +/-3in. Slight trimming may also be needed to ensure a consistent and level top rail. Please note that posts can be slightly angled on sloped roof applications.



5

Locate the brace channel (18in long). Ensure the post is level. Mount the brace channel between the base channel and the post at a 45 degree angle. You can use the 18in long brace to mark this point. Fasten the diagonal brace channel with a total of (4) 3/4in S/S Tek screws. See illustration above.



6

Maximum spacing between posts must not exceed 8ft.

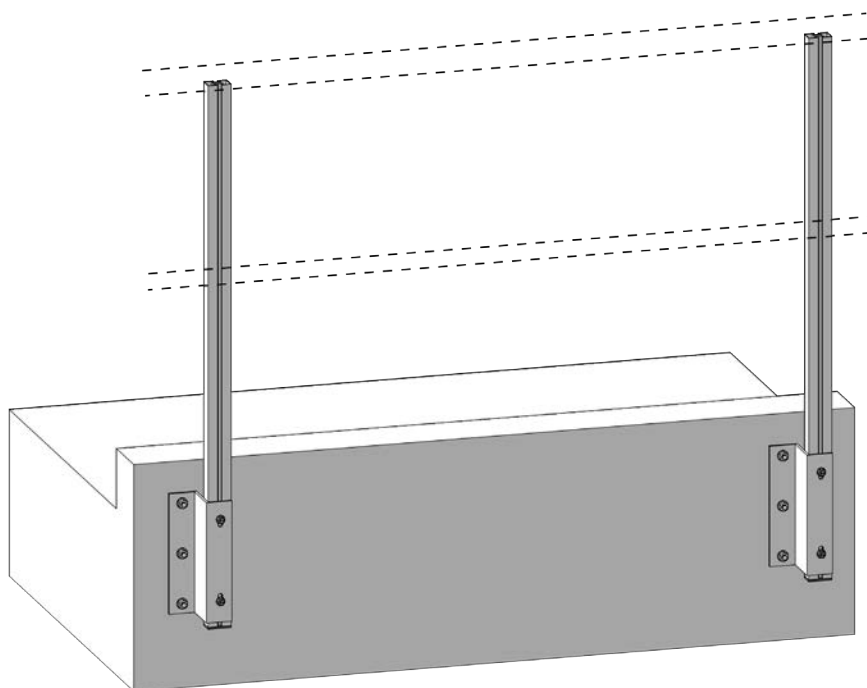
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Return to page (4) for railing assembly instructions.

## INSTALLATION MANUAL

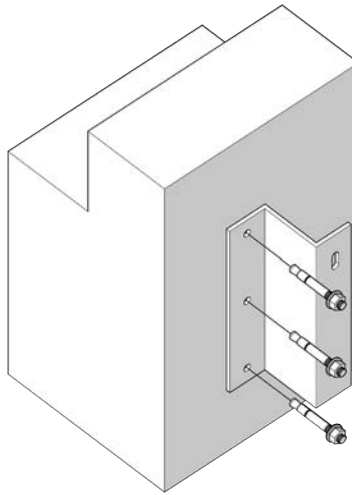
# EXTERNAL WALL MOUNT POST

GR33



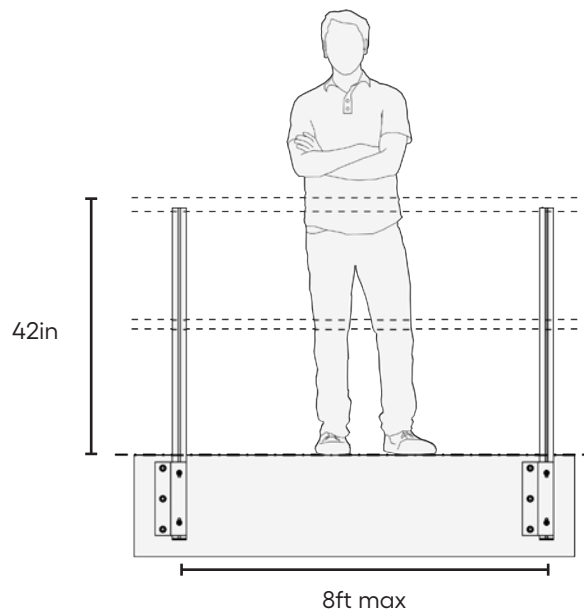
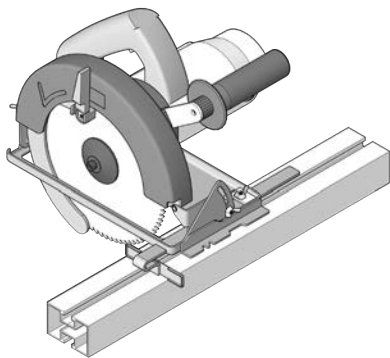
### HARDWARE REQUIREMENTS

- Precast concrete - EP1001 VF200PRO Epoxy or HILTI HIT-HY-70 injectable Mortar and (3) 3/8in S/S anchor rods, washers, and nuts
- Hollow core concrete & brick - EP1001 VF200PRO Epoxy or HILTI HIT-HY-70 injectable mortar, composite sleeve and (3) 3/8in S/S anchor rods, washers, and nuts
- Steel - (3) S/S 3/8in mechanical bolt/toggle assembly. Must be mounted into structure



1

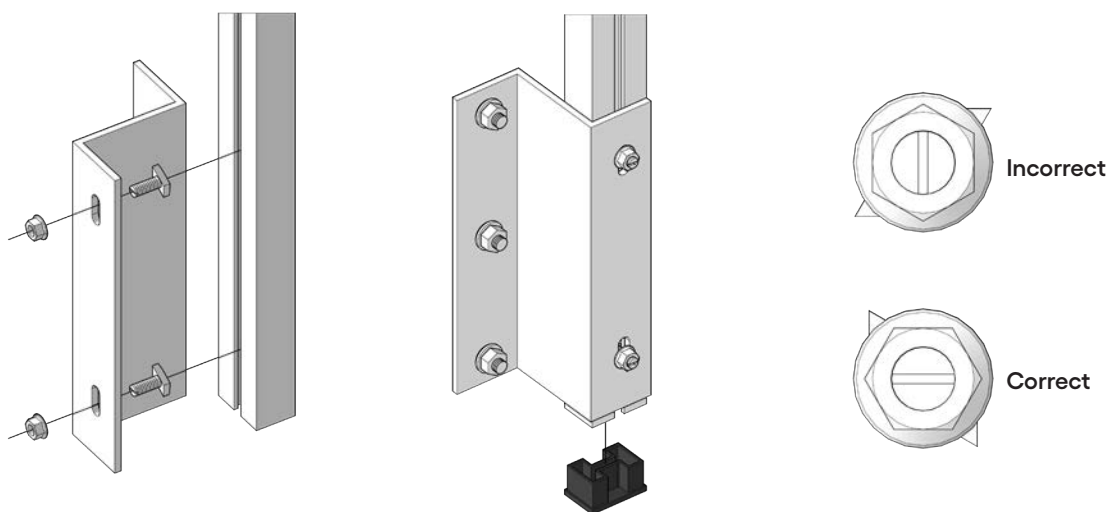
Fasten the wall bracket to the external wall using the recommended hardware. Ensure the bracket is level prior to mounting. Bracket must be mounted as close to the top as possible. Ensure brackets are mounted at a maximum of 8ft spacing. Follow standard practice and roofing manufacturer guidelines for waterproofing. There must be a minimum of (3) anchors per wall bracket.



2

Posts are supplied in 5ft (60in) lengths as standard. The post will possibly need to be cut down to ensure the top rail is 42in (+/-3in) above the walking/working surface. Use a circular saw with an aluminum blade.

**a. IMPORTANT NOTE:** The top rail adds approximately 1-3/4in to the total post height.



3

Mount the post to the wall bracket using (2) 1/2in T-Bolts (supplied by Kattsafe). Ensure the bolt slot is horizontal to the post. Insert the end cap into the base of the post extrusion.

Return to page (4) for railing assembly instructions.

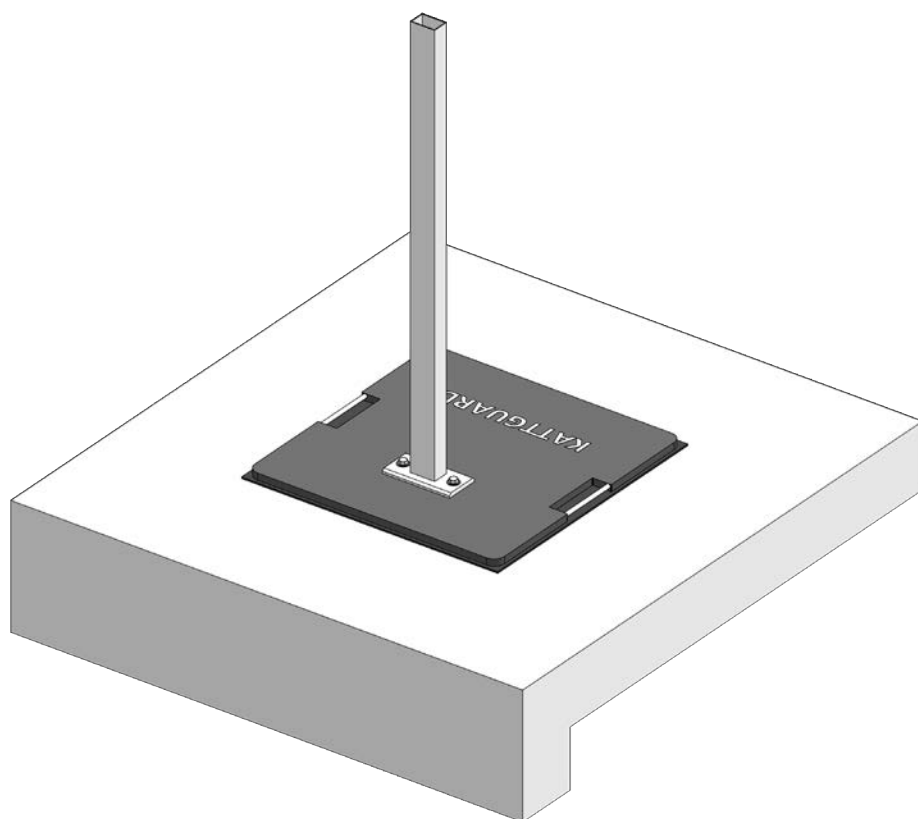
INSTALLATION MANUAL

# NON-PENETRATING BASE / POST

GR34

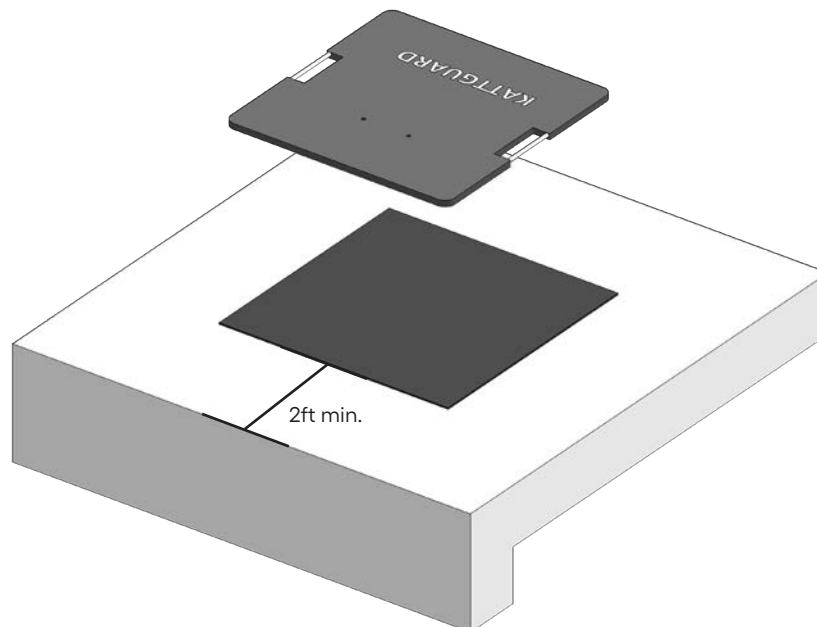


Scan to watch the Kattsafe  
GR34 Installation Video



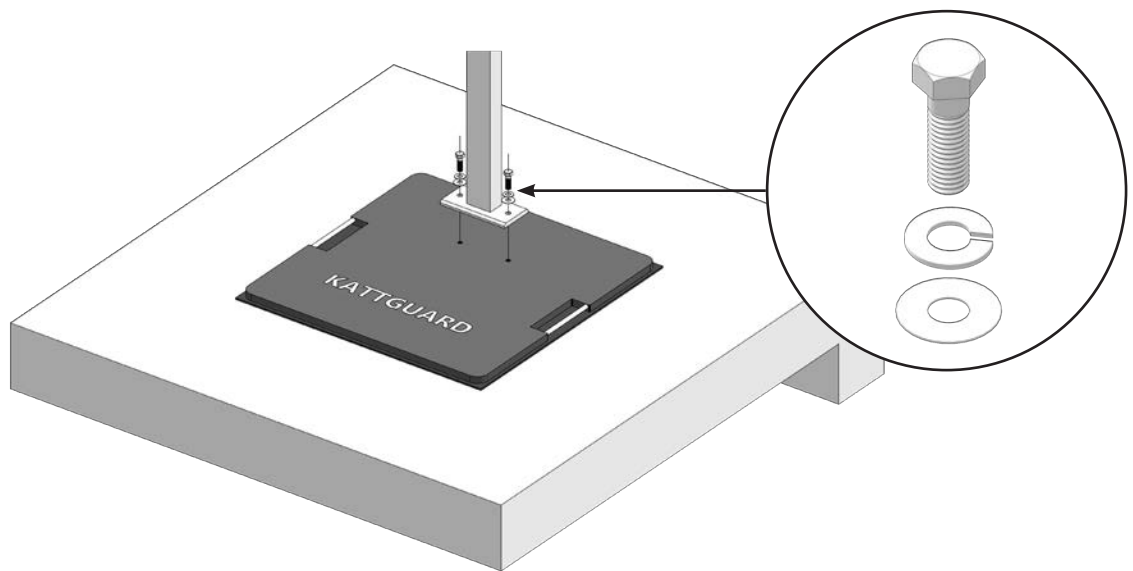
## IMPORTANT NOTES

- a. Kattsafe GR34 Freestanding Guardrail cannot be installed on roof slopes of 1:12 or greater. Large, sloped membrane roofs with a gutter edge can generate large volumes of water run-off during adverse weather. The GR36 system is best suited for these applications.
- b. When there is no parapet or small wall, the GR34 Bases should be set back at least 2ft from the roof edge and an EPDM roof pad should be used for additional slip resistance
- c. Roof surfaces must be evaluated prior to install to ensure the bases are not installed on top of gravel or slippery surfaces
- d. A 5ft return kit (outrigger) must be placed at the end of any open ended guardrail system regardless of length. If there is no 5ft return kit, the rail must be securely terminated and fastened into either a wall, ladder or other equipment.
- e. Where possible, install a roof pad under each base to further protect the roof system. Refer to note 'b'
- f. Weighted bases must be lifted by two people and the handles provided must be used for lifting
- g. Weighted bases must never be used for tie off purposes or in anyway different from their intended use
- h. Do not install the weighted base when there is ice or snow on the roof. Ensure the surface is cleared and dry before locating in position
- i. We do not recommend the GR34 System being installed on roofs 60ft or higher where there is no parapet or wall. The GR36 system should be used in these applications
- j. Due to increased wind resistance, Toeboard is not recommended on GR34 systems where there is no parapet or small wall. due to the increased wind resistance.
- k. Never mount anything additional to the GR34 system unless approved by the manufacturer.
- l. Standard wind load rating is 70mph. Do not use if potential exists for exposure to wind gusts greater than 70mph. Specific engineering can be performed and provided on a per project basis where higher wind load ratings are required. A cost may apply.



1

Install (1) GR.PAD.EPDM protection mat under each base (See 'Important Notes' above). Locate the pad a minimum of 2 ft from the roof edge when there is no parapet or small wall. Then lay the weighted base directly on top of the pad. Ensure the logo is on the inside of the guardrail (further from the roof/fall edge).



2

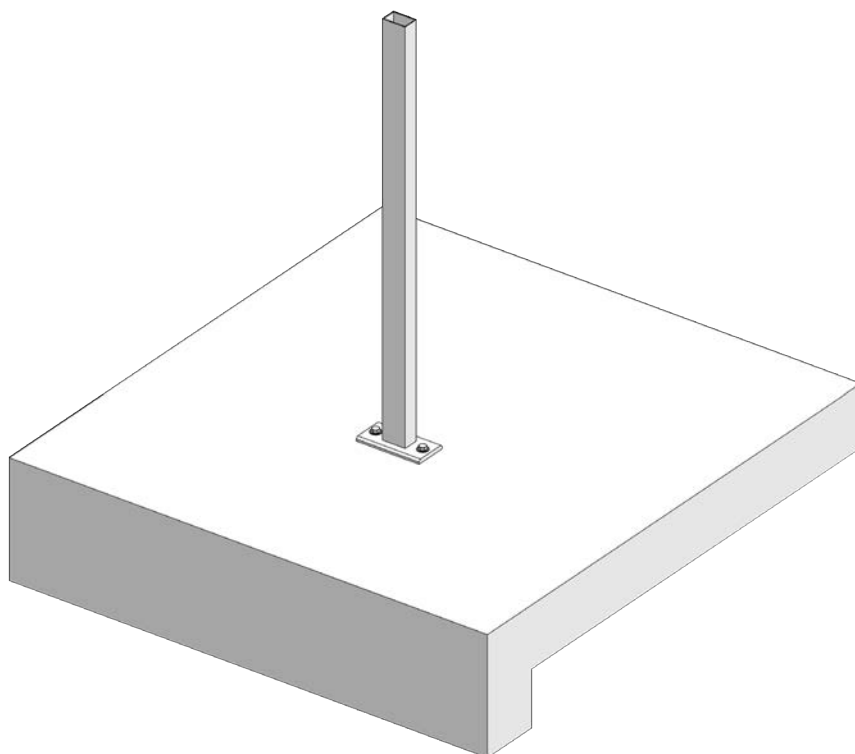
Mount the Aluminum Top Mount Post to the base using (2) S/S flat washers, (2) S/S lock washers and (2) S/S bolts. Ensure the bolt is tightened and snug and the post is secure.

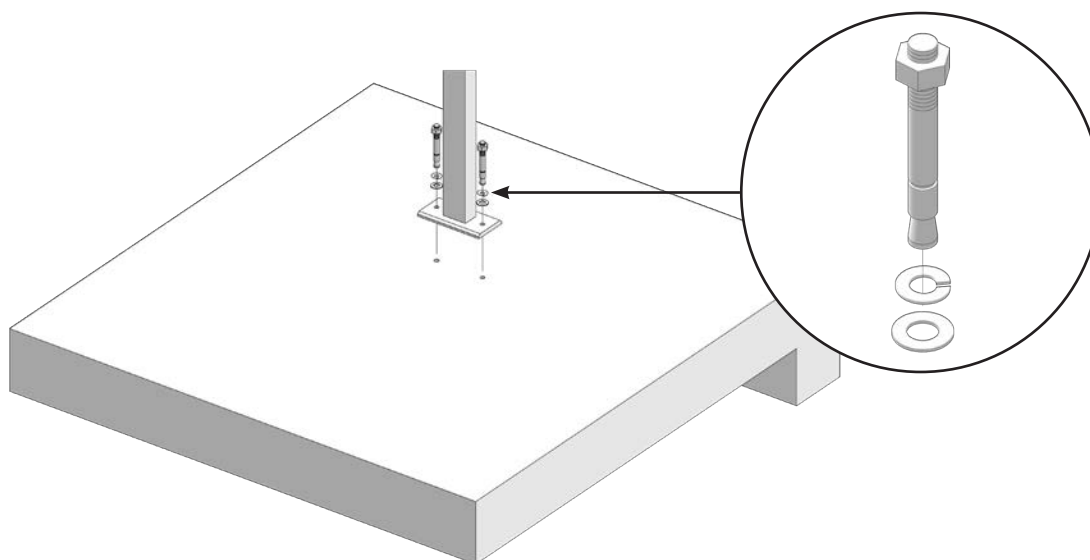
Return to page (4) for railing assembly instructions.

INSTALLATION MANUAL

# TOP MOUNT POST

GR35





1

Mount the Aluminum Top Mount Post to the substrate (concrete or wood substrate) using the appropriate stainless hardware. Ensure there is (2) S/S flat washers, (2) S/S lock washers and (2) S/S bolts. Ensure the bolts are tightened snug and the post is secure.

Return to page (4) for railing assembly instructions.

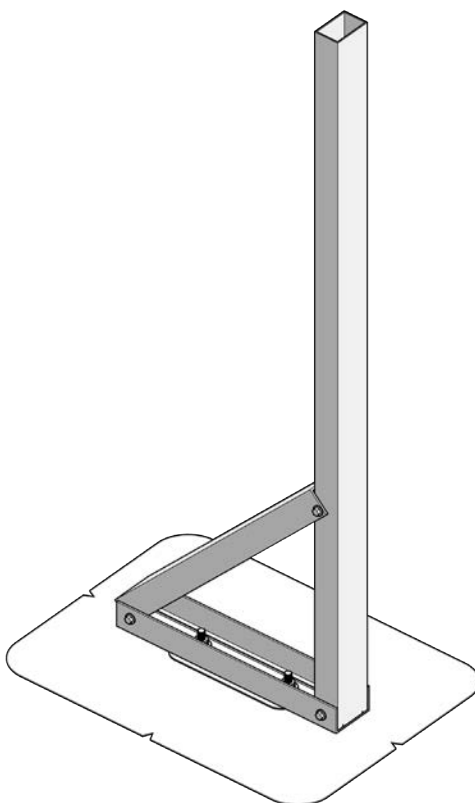
INSTALLATION MANUAL

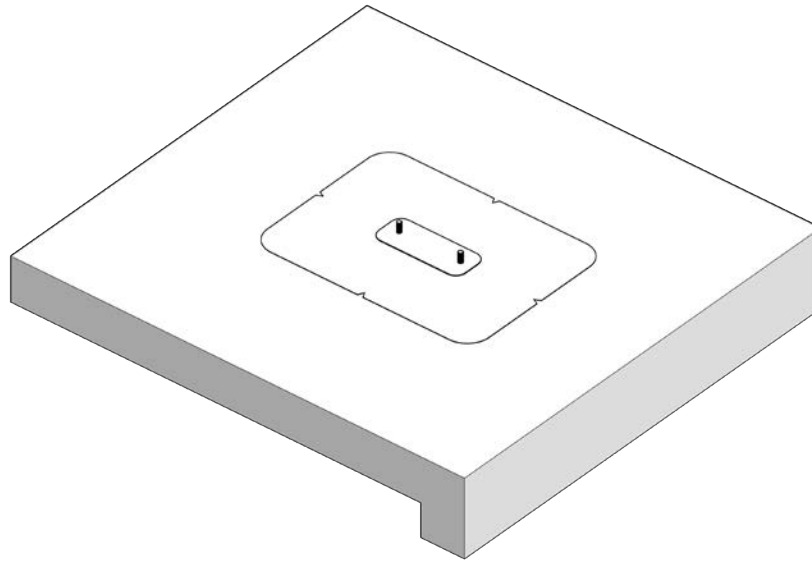
# SURFACE MOUNT

GR36



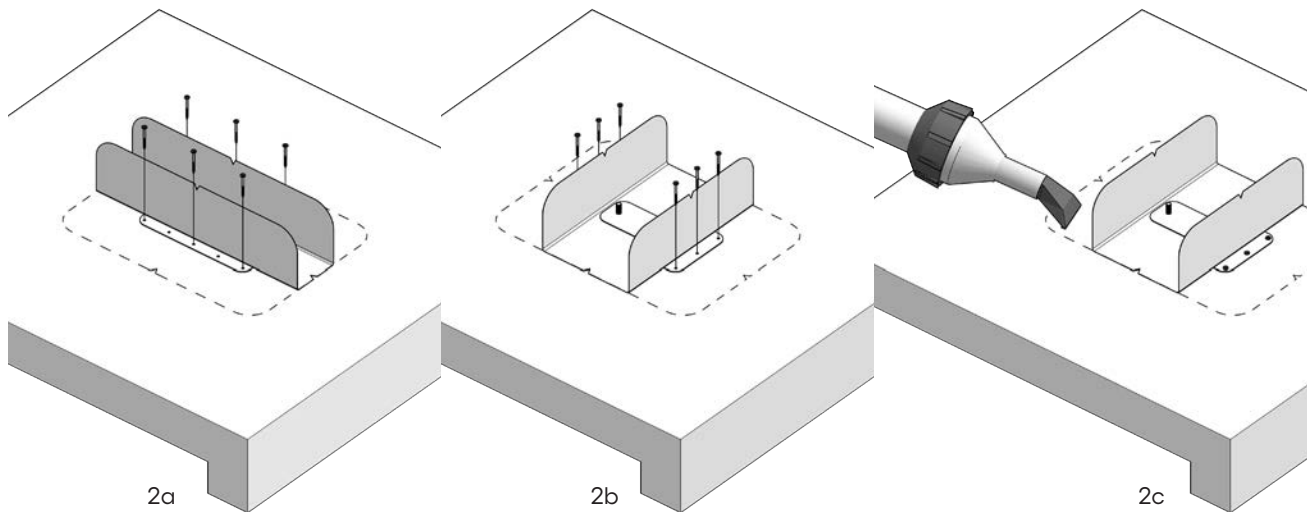
Scan to watch the Kattsafe  
GR36 Installation Video





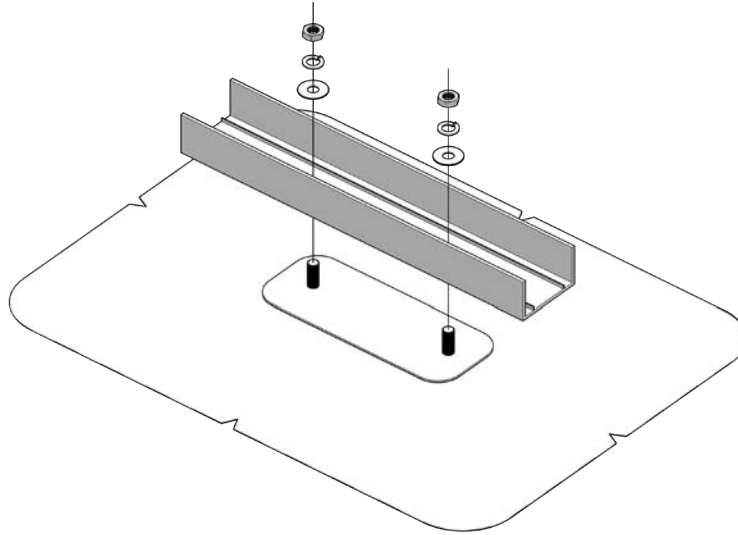
1

Position the surface mount attachment method directly on top of the roofing membrane close to the leading edge but ensure there is sufficient clearance for the membrane flange to be heat welded to the existing roof membrane. Ensure the stainless studs are 90 degrees to the roof edge.



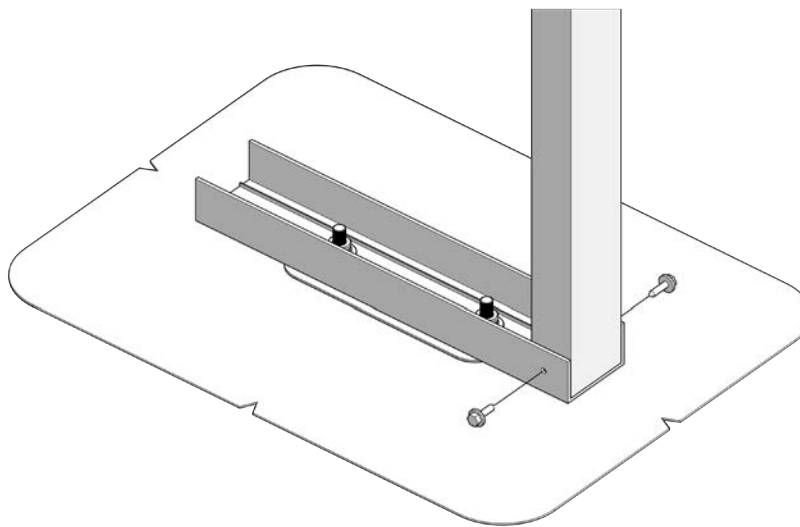
2

Fasten the surface mount anchor plate into the roof deck using (8) #14 or #15 roofing fasteners ensuring a minimum embedment of 1in. Fasteners supplied by others. See figure 2a and 2b. Once securely fastened to the roof substrate, heat weld or adhere as per roofing membrane manufacturers guidelines.



3

Locate the pre-drilled post kit base channel (12in length). Place the channel over the studs of the surface mount attachment method. Fasten the channel to the surface mount attachment method stud using a S/S flat washer, S/S lock washer and S/S nut on each stud.

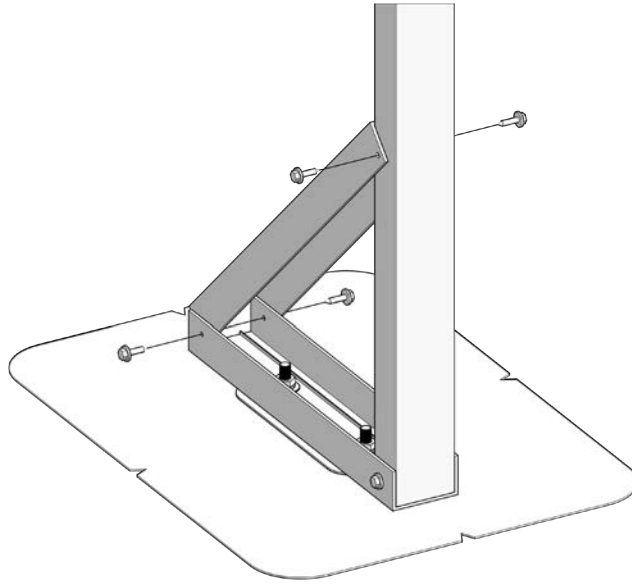


4

The next step is to insert the rectangular aluminum post at the end of the channel nearest to the roof edge. Ensure the post is vertically level and fasten using (2) 3/4in S/S tek screws. There must be (1) on each side of the post. You can use the grooves of the channel for screw placement.

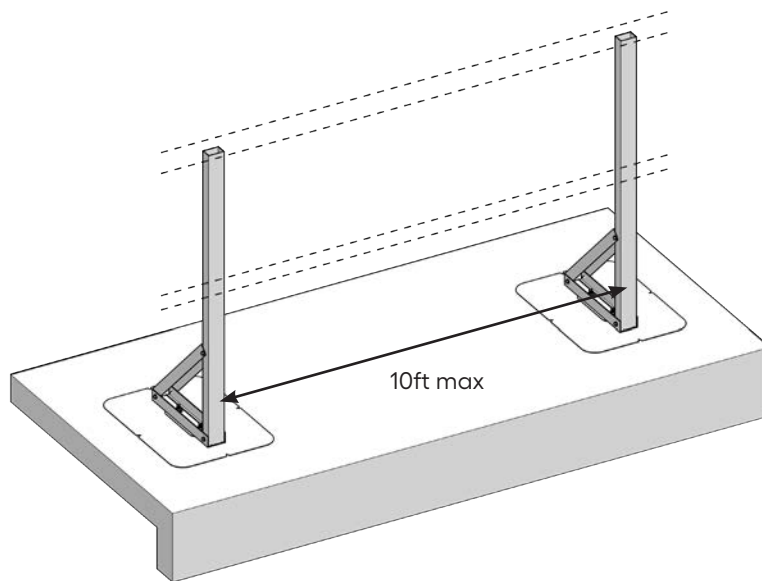
- IMPORTANT NOTE:** Ensure the height of the post (plus top rail (1-3/4in)) results in a total height of 42in +/- 3in. Slight trimming may also be needed to ensure a consistent and level top rail.
- Please note that the post can be mounted in the base channel at a slight angle on sloped roof surfaces to ensure post is leveled.

Please note that posts can be slightly angled on sloped roof applications.



5

Locate the brace channel (18in long). Ensure the post is level. Mount the brace channel at the end of the base channel and then connect to the post. Fasten the diagonal brace channel with a total of (4) 3/4in S/S tek screws. See illustration above.



6

Maximum spacing between posts must not exceed 10ft. Please note that certain state OSHA plans require a maximum of 8ft post spacing.

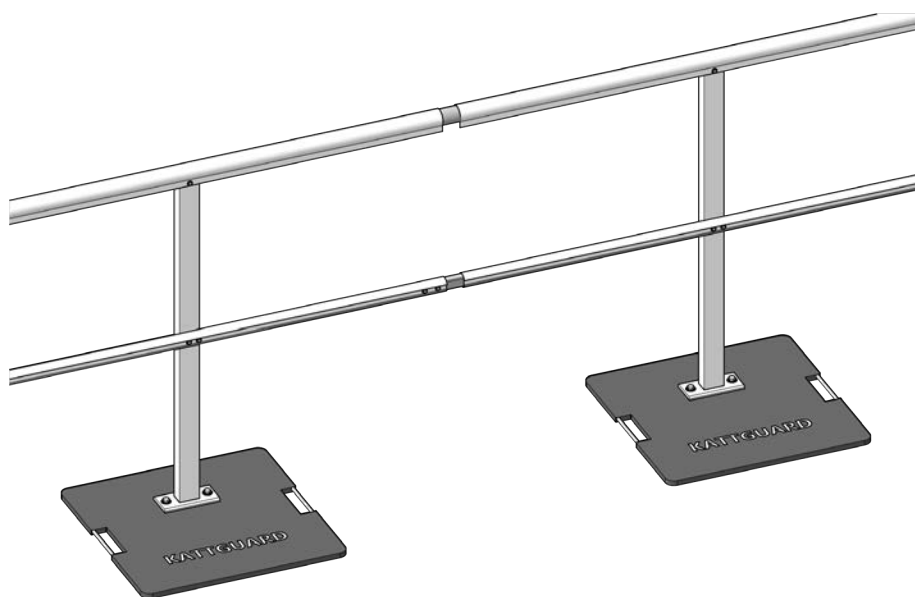
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Return to page (4) for railing assembly instructions.

INSTALLATION MANUAL

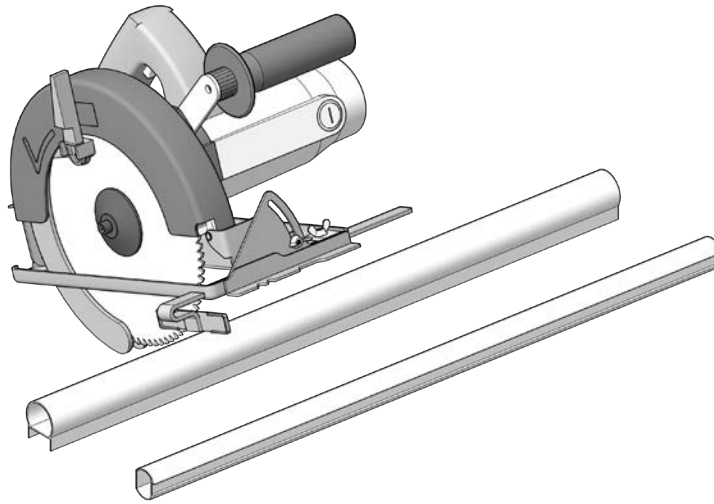
# GUARDRAIL EXPANSION JOINT

GR.EXP



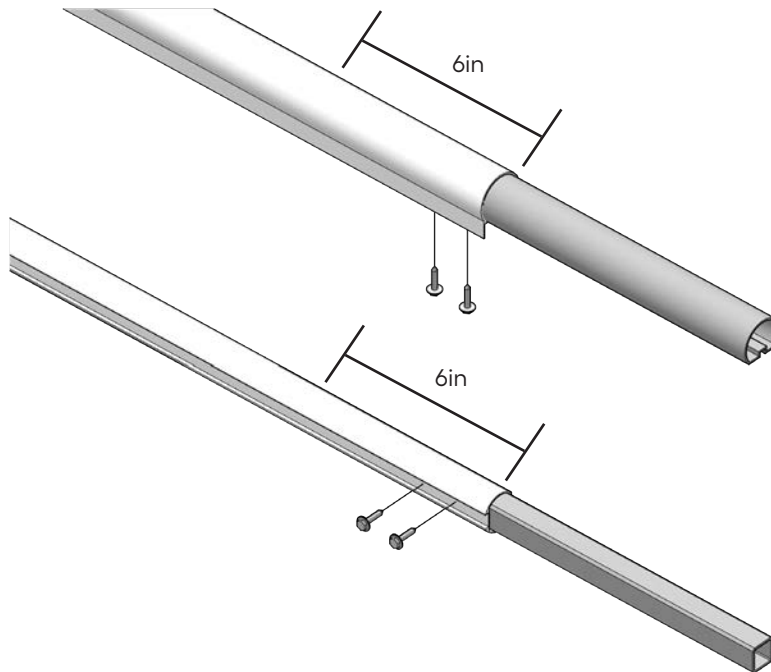
GR34 Base shown for  
illustration purposes.

**IMPORTANT NOTE:** Expansion Joints are vital to reduce expansion and contraction that can be evident in aluminum. There must be a minimum of (1) expansion joint kit (installed in the top rail and midrail) installed in any kit from 30ft to 100ft in length. There then must be an additional expansion joint kit for every 100ft of rail.



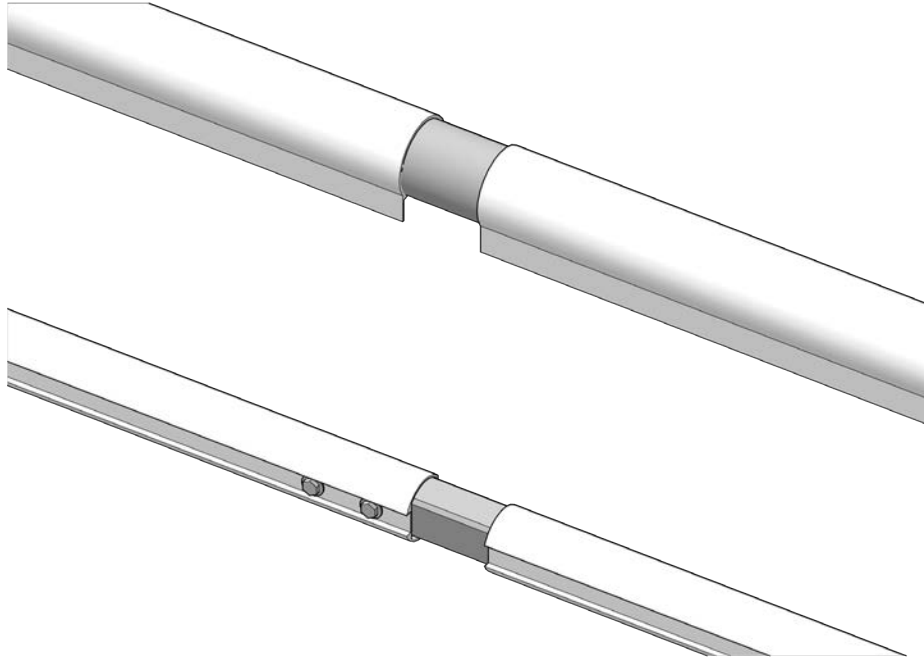
1

Often it is easiest to add the expansion joint kit in after the majority of the installation is complete. Make a clean cut of the top rail and mid rail in the center area of a guardrail system. Ensure the cut is made at least 2ft from a splice join.



2

Insert the 24in long top rail splice 6in into one side of the top rail. Then fasten with (2) 3/4in S/S tek screws on the underside. Repeat the same for the mid rail. Fasten with (2) 3/4in S/S tek screws on the side.



3

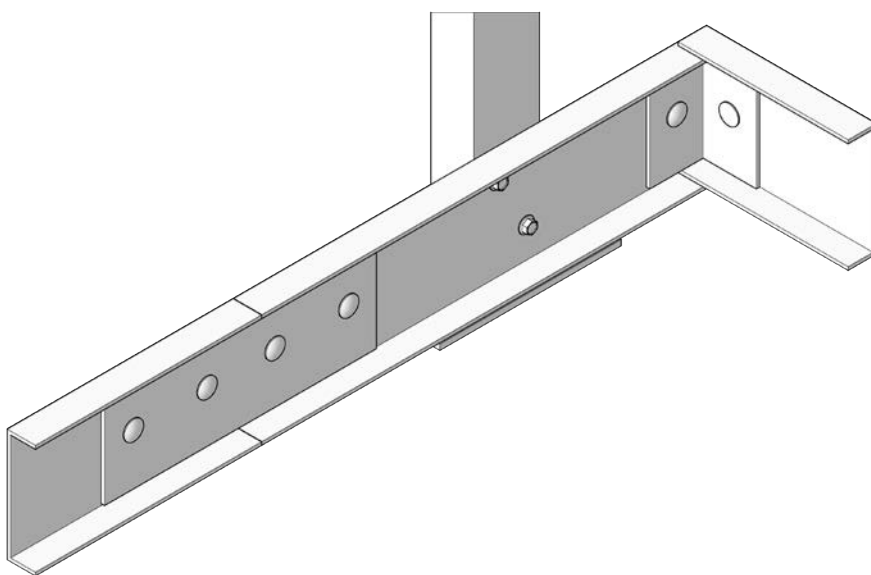
Now insert the two open splice pieces into the other side of the top rail and mid rail. Ensure there is a minimum 2in gap where the splice join is visible. This should result in a minimum of 16in unfastened in one side. **Do not fasten this side!**

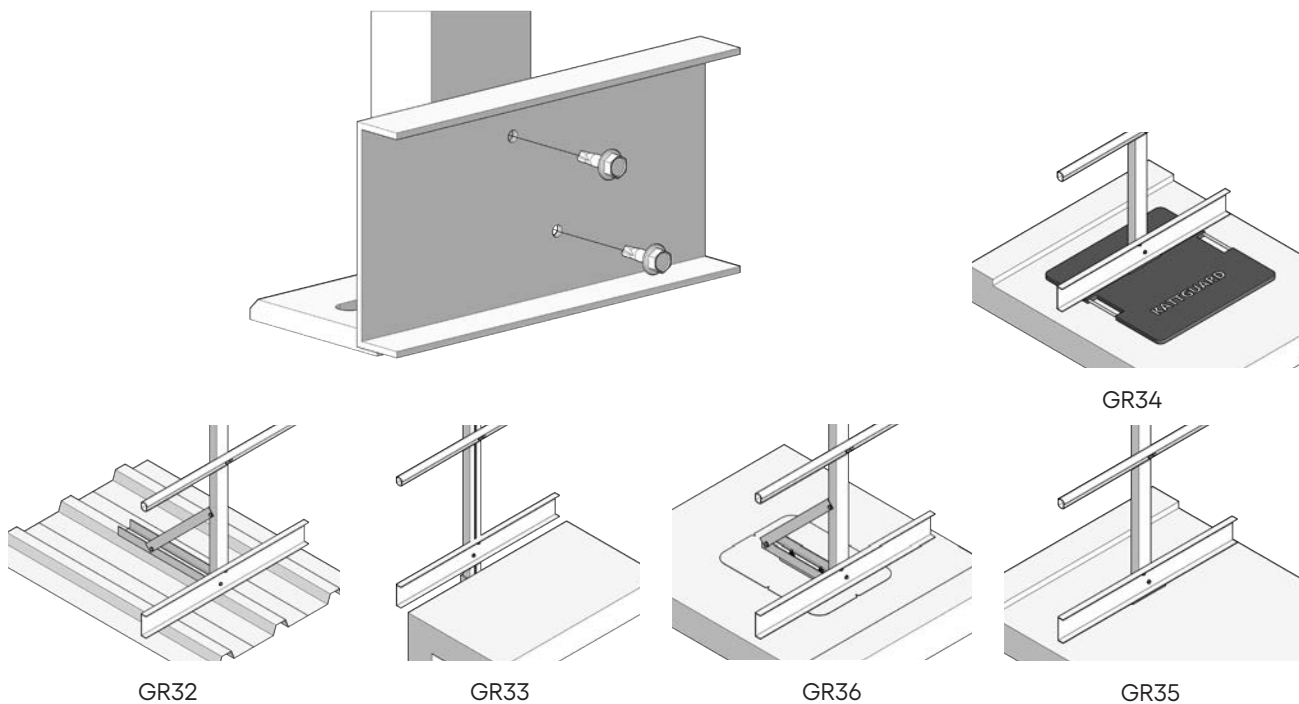
Return to page (4) for railing assembly instructions.

INSTALLATION MANUAL

# TOEBOARD

GR.TB





1

Place the toeboard extrusion against the bottom of the guardrail post. Please see above illustrations. Fasten the toeboard to the post with (2) 3/4in S/S tek screws.

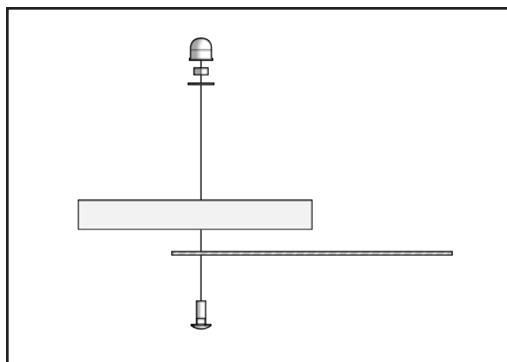
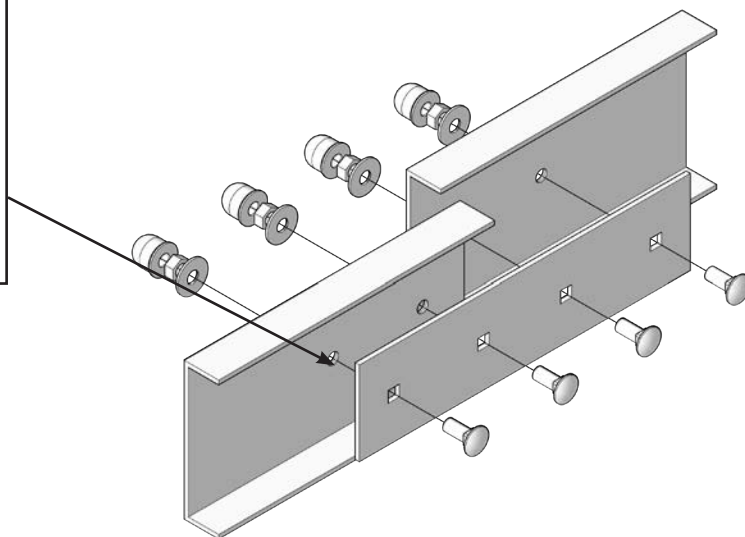


Figure (A)



2

To connect the toeboard extrusion together, overlay the joiner plate on the inside of the toeboard. Drill (4) holes using a 3/8in drill bit. Ensure there are (2) holes on each side of the center join. Then fasten the joiner plate using the (4) S/S bolts, lock washers, flat washers and nuts.

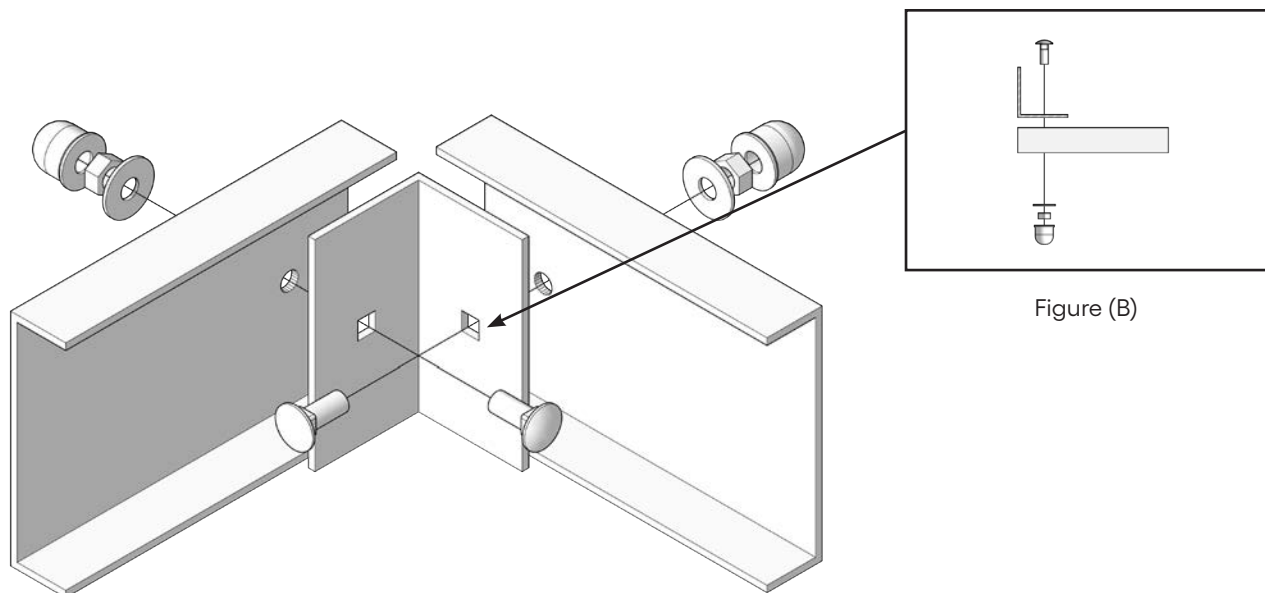


Figure (B)

**3**

To create a corner connection, overlay the corner angle on the inside of the toeboard. Drill (2) holes using a 3/8in drill bit. Ensure there is (1) hole on each side of the angle. Fasten the corner angle to the toeboard using (2) S/S bolts, lock washers, flat washers and hex nuts.

Return to page (4) for railing assembly instructions.

## MAINTENANCE, CLEANING AND STORAGE

Maintenance with aluminum guardrail systems is relatively minimal. Any repairs to Kattsafe systems can only be performed by Kattsafe or an entity approved by Kattsafe. Contact Kattsafe for all maintenance and repair needs at 888-637-7872.

Cleaning after use is important for maintaining the safety and longevity of the Kattsafe systems. Remove all dirt, corrosives and contaminants from Kattsafe Guardrail Systems before and after each use. If the system cannot be cleaned with plain water, use mild soap and water and rinse and wipe dry.

There are no lifetime limitations for Kattsafe Guardrail systems as long as they pass the pre-use and annual inspection requirements specified by these instructions.

If guardrail system is being stored prior to installation, ensure it is stored in a dry environment where it will not be affected by excessive moisture, chemicals, excessive building vibration or other degrading elements.

## INSPECTION

Refer to these instructions for proper inspection procedure

Prior to each use, inspect the Kattsafe Guardrail systems for any deficiencies including, but not limited to deformation, pits, burring, corrosion, sharp edges, cracking, rust, loose screws, weld damage, rough surfaces, expansion of splice joints, excessive heating, alteration, damaged parts, instability, movement and missing or unreadable labels. IMMEDIATELY remove from service if defects or damage are identified. Any missing labels require the system to be removed from service.

Kattsafe requires the Kattsafe Systems to be checked at least every 12 months by a competent inspector in accordance with relevant OSHA regulations and manufacturers guidelines. If this inspection is not performed, the warranty is void and all/increased liability will be the responsibility of the customer/end user. Inspections must be recorded in this manual and initials input in the inspection grid below:

Date of first use:				Installed by:								
Competent person to inspect product and initial on the grid below.												
Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
20__												
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NOTES

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NOTES

# Kattsafe

Height access  
and fall protection

3921 Perry Boulevard  
Whitestown, IN 46075  
USA

888 637 7872  
[sales@kattsafe.com](mailto:sales@kattsafe.com)  
[kattsafe.com](http://kattsafe.com)