KSTRONG®
UNRIVALED SAFETY.

IMPAX

GUARDRAIL SERIES

AFG2000 & AFKG2200
KGUARD & KGATE

USER INSTRUCTION MANUAL

MUST BE READ AND UNDERSTOOD PRIOR TO INSTALLATION

KS GROUP

Disclaimer

The information provided in this User Instruction is based on technical data obtained by KStrong under laboratory conditions and is believed to be reliable; however, KStrong makes no guarantees regarding results and assumes no liability or obligation arising from the use of this information. Since conditions of end use are beyond KStrong's control, it is the user's responsibility to assess hazard levels, determine product suitability for the intended application, and ensure the use of appropriate personal protective equipment. Evaluation under specific end-use conditions should be conducted by persons with appropriate technical expertise at their own discretion and risk.

This information is provided solely to assist in verifying that the selected product is suitable for its intended use. Any product that is damaged, torn, worn, punctured, altered, or misused must be removed from service immediately. Failure to follow the manufacturer's instructions for proper use, care, maintenance, or system integration may result in serious injury or death. All manufacturer's instructions for each component or part of the complete system must be read, understood, followed, and retained, and must be kept available for the user's reference at all times.

The user is advised to retain this User Instruction document for the life of the product.

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Please read and understand the manufacturer's instructions for each component or part of the complete system. Manufacturer's instructions must be followed for proper use, care, and maintenance of this product. These instructions must be retained and be kept available for the user's reference at all times. Alterations or misuse of this product, or failure to follow instructions, may result in serious injury or death.

Note: The user is advised to keep this user instructions document for the life of the product.

WARNING !

The products described in this User Instruction Manual are components of a collective fall protection system intended to prevent falls from height. The user must read and follow the manufacturer's instructions for each component of the system. This manual contains information important to your safety and should be kept in a safe place for future reference. The instructions provided in this manual are meant for the use of this equipment and should be read thoroughly and understood by the user before the equipment is used. Manufacturer's instructions must be properly followed for the correct use and maintenance of this equipment. Please contact KStrong for any questions regarding the use of this equipment.

Know Your System

GUARDRAIL SERIES

KStrong guardrails are safety barriers designed to prevent falls and enhance safety in various environments, particularly on elevated surfaces such as roofs, balconies and stairways. Guardrails are an essential component of workplace safety, especially in industries where employees are required to work at heights. They serve as a passive protection system, providing a continuous physical barrier between workers and potential fall hazards without requiring active engagement, such as harnessing or other personal fall arrest systems (PFAS).

Key Features:

- Physical Barrier: KStrong guardrails are constructed from aluminum and are designed to withstand significant force to prevent falls.
- Height and Strength Specifications: Meeting the safety regulations specifying the minimum height and load capacity of guardrails to ensure they effectively prevent falls.
- Versatile Applications: Guardrails can be used on flat and sloped roofs, along walkways, stairways, platforms and other elevated areas where there is a risk of falling.

Types of Guardrails:

Standard	Description	Main Application
EN 13374	Temporary Edge Protection Systems	Construction / temporary work at height
EN ISO 14122-3	Safety of Machinery Permanent Means of Access to Machinery Part 3: Stairs, Stepladders and Guardrails	Permanent industrial platforms and guardrails

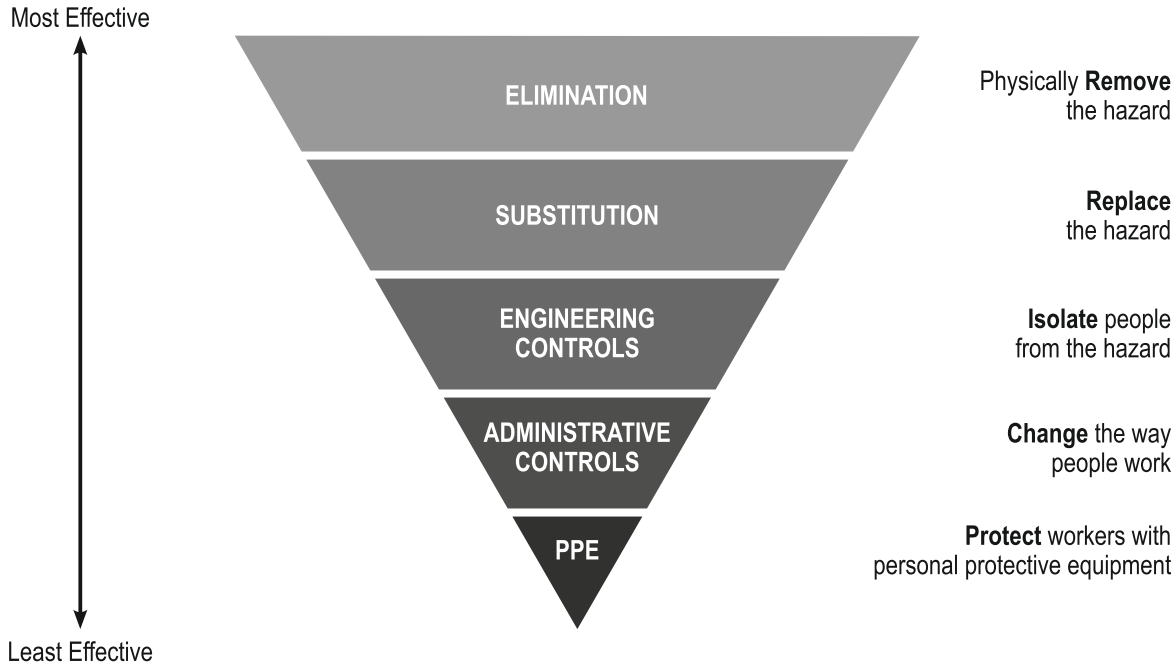
Importance of Guardrails:

Guardrails play a crucial role in reducing the risk of workplace injuries and fatalities by providing a simple, yet effective, means of fall prevention. They are often the first line of defense against falls and are widely recognized as a best practice in safety management across various industries. Additionally, the use of guardrails can help businesses comply with safety regulations, avoid costly fines and promote a culture of safety in the workplace.

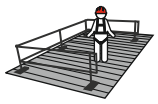
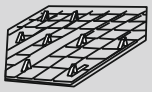
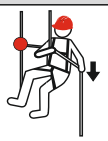
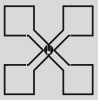
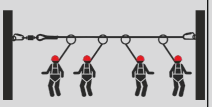
Testing & Certification:

The KGuard range of guardrails has been Tested in accordance with EN 13374:2013+A1:2018 Class A and EN ISO 14122-3:2016.

Hierarchy of Control



Related Standards for Collective Fall Protection and Associated PPE

Standards		Description	Standards		Description
EN13374:2013 + A1:2018 Class A		Guardrail - Temporary Edge Protection Systems	EN ISO 14122-3:2016		Permanent Means of Access to Machinery - Part 3: Stairs, Stepladders and Permanent Industrial Platforms and Guardrails
EN 516 Class 1-C		Prefabricated Accessories for Roofing – Installations for roof access – Walkways, treads and steps.	EN 516: 2006 Class 2		Fall Protection Class HB of UL94 Fire Rated BS4592 Slip Resistance
EN 353-1		Guided type fall arresters including a rigid anchor line	EN 353-2		Guided type fall arresters including a flexible anchor line
EN 795 Type A		Anchor device requiring the fixing of one or more structural anchors	EN 795 Type B		Anchor device not requiring the fixing of one or more structural anchors
EN 795 Type C		Anchor devices using a horizontal flexible anchor line	EN 795 Type D		Anchor devices using a horizontal rigid anchor line
EN 795 Type E		Deadweight anchoring device	CEN/TS 16415:2013		Personal fall protection equipment - Anchor devices - recommendations for anchor devices for use by more than one person simultaneously
II 2G Ex h IIc T6 Gb EN ISO 80079-36:2016 EN ISO 80079-37:2016		The ATEX directives are two EU directives describing the minimum safety requirements for workplaces and equipment used in explosive atmospheres			

Must be Read Prior to Use

Guardrail System

- Prior to use, ensure all operating instructions and safety requirements have been read, understood and followed.
- The guardrail must be used by competent persons who have recieved appropriate training and have experience in safe use of the system and associated equipment.
- Ensure all local Workplace Health and Safety (WHS/OH&S) requirements are identified, understood.
- A risk assessment with a Safe Work Method Statement (SWMS) must be completed and approved by management prior to work commencing.
- The guardrail system must be installed in accordance with EN 13374:2013+A1:2018 Class A and EN ISO 14122-3:2016 and the manufacturer's instructions at all times.
- The system requires periodic inspection and maintenance by the manufacturer or an authorised representative, in accordance with EN365 of the PPE Regulation 2016.
- The system MUST NOT be used if the inspection or service date is overdue.
- Authorisation to access any hazardous or restricted areas must be obtained from the person in control of the workplace.
- The guardrail system must not be used as an anchorage point for personal fall arrest, work positioning, or restraint systems unless specifically designed and certified for that purpose.
- A visual inspection must be carried out prior to use. Do not use the system if there is any evidence of damage, corrosion, deformation, missing components, instability or if the supporting structure is not suitable.
- If the guardrail system is damaged, discontinue use until it has been fully inspected and rectified by the manufacturer or an authorised representative.
- Ensure all posts, rails, toe boards, fixings, and fittings are correctly installed, securely fastened, and maintained. Any adjustments or replacements must be carried out by a competent person.
- All applicable EN Standards, local WHS / OH&S legislation and regulations, codes of practice, and guidelines must be read, understood, and followed when using this guardrail system.
- **WARNING:** IMPROPER USE, INSTALLATION OR MAINTENANCE MAY RESULT IN SERIOUS INJURY OR DEATH.

Instructions for Periodic Examinations

- The system shall be periodically inspected and maintained in accordance with the applicable guardrail standard, manufacturer's instructions and national requirements. The safety of users depends on the continued efficiency integrity and durability of the system.
- The personal protective equipment (PPE) shall be subject to periodic examination at intervals not exceeding 12 months.
- Equipment used in corrosive, aggressive, or harsh environments, periodic examinations shall be carried out at intervals not exceeding 6 months. More frequent inspections may be required depending on the conditions of use and risk assessment.
- Periodic inspections shall be carried out by a competent person authorised in accordance with the manufacturer's inspection requirements.
- Inspection findings and comments shall be recorded on the system inspection or check card, and the next inspection due date shall be determined following each periodic inspection.
- During periodic inspection, the legibility of all product markings, labels, and identification information must be verified.
- Check all metals for sharp edges, burs, corrosion, pitting, bent profile distortion, cracks or excessive wear .

Remove from Service

Guardrails should be immediately removed from service if any of the following conditions are observed:

- Visible damage to structural components such as bends, cracks or deformation in rails, posts or joints.
- Corrosion or rust that compromises the strength or integrity of metal components.
- Loose fittings, bolts or welds that cannot be securely tightened or repaired on-site.
- Missing or damaged sections (e.g., top rail, mid-rail, toe board) that affect the overall continuity or protection of the system.
- Impact or load incident — if the system has been subjected to a fall, collision or significant load beyond its design capacity.
- Unstable or weakened mounting points, including roof anchors, base plates or fixings.
- Unauthorized modifications or alterations that deviate from manufacturer specifications or engineered design.
- Failure to meet inspection criteria during periodic or annual safety audits.
- Signs of fatigue or wear on materials, coatings or connections over time.

Job Safety Analysis

Before commencing the job, it is recommended that the service technician / installer completes a JSA form, to identify hazards at site and to decide the correct PPE they need to mitigate the hazard. Refer to the example below.

Section 1 Job details					
JSA title		Project name		Work order or PID No.	
		Principal contractor			
Location / address				Date/s of activity	
Prepared by		Date prepared		Signature	

Permits required				Isolations required	
□ Confined Space	□ High risk work rescue plan	□ High voltage access	□ Roof Access	□ Mechanical	□ Hydraulic
□ Work at height	□ Excavation and trenching	□ Energized work	□ Other (please specify)	□ Electrical	□ Pneumatic
□ Penetrating	□ Grid mesh, flooring and Guardrail removal	□ Hot work		**Site access required**	□ YES □ NO

Section 2-Common Hazards **(Each Hazard identified below must be assessed)**

Chemicals/hazardous substances		High-risk activities	
Name of chemicals or hazardous substance □ SDS available		□ Confined space	□ Work at heights
		□ Hot Work	□ Excavation, trenching or penetrations
Energy sources		□ Construction work	□ Scaffolding
□ Electricity	□ Pressure	□ Demolition	□ Structural alterations
□ Gas / Fuel	□ Water	Work location	
Plant and equipment		□ Sun	□ Working over, in or near water
□ Fixed Plant	□ Mobile Plant	□ Plants, Animals or Insects	□ Contaminated / Flammable atmosphere
□ Vehicles / boats	□ Hand Tools	□ Slips, trips and falls	□ Work occurring in other areas
Manual tasks		□ Biological hazards	□ Fire
□ Repetitive tasks	□ Heavy Lifting	People	
□ Awkward posture	□ Sustained posture	□ Remote or isolated work	□ Contractors
Facilities / built environment		□ Fatigue	□ Visitors / land owners / public
□ Buildings and fixtures	□ On/in or adjacent to roadways	□ Competency or training required	□ License required
□ Open pits, trenches or tunnels	□ Asbestos/ lead	Environment and water quality	
□ Overhead objects or services	□ Underground objects or services	□ Erosion & sediment control	□ Waste/ discharge
□ Lighting	□ Noise	□ Emissions (or air pollution)	□ Flora/ fauna/ weed management
□ On or near pressurized gas distribution mains or piping	□ On or near chemical. fuel or refrigerant lines	□ Release to drains/waterways	□ Water quality

Activity List the task required to perform the activity in the sequence they are carried out.	**Hazards** Against each task, list the hazards that could cause injury when the task is performed.	**Risk Control Measures** List the control measures required to eliminate or minimize the risk of injury arising from the identified hazard.	**Who is responsible?** Write the name of the person responsible (supervisor or above) to implement the control measures identified.

Workers Names	**Workers Signatures**	**Date**	We, the undersigned employees acknowledge that we have assisted in the development of this JSA and have read and understood its contents. We agree to perform the work required in accordance with the instructions provided, including but not limited to the use of all listed PPE

Remember: • Each JSA must be site specific. • Include all workers in the development of this JSA.

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Receiving Structure

- The receiving structure must have a load-bearing capacity greater than the maximum forces generated by the guardrail system, as required by EN 13374:2013+A1:2018 Class A and EN ISO 14122-3:2016. Where the structural capacity cannot be verified, a qualified structural engineer must be consulted prior to installation.
- The guardrail system has been designed by trained engineers and installers of KStrong using Compass engineering software to ensure compliance with EN 13374:2013+A1:2018 Class A and EN ISO 14122-3:2016 and applicable design load requirements.
- Information relating to the strength, construction and condition of the receiving structure (including concrete roofs, trapezoidal metal decking, standing seam and kliplok roof profiles) must be provided by the client prior to installation.
- Where the strength of the receiving structure is unknown, unverified or uncertain, load calculations must be carried out by a competent structural engineer before installation proceeds.

Roof-Specific Receiving Structure Requirements

Trapezoidal Metal Roofs

- Suitable for use with manufacturer-approved trapezoidal base plates.
- Minimum roof sheet thickness:
  - Steel: 0.40 mm
  - Aluminium: 0.70 mm
  - Roof sheeting must be adequately supported by structural members (e.g. purlins or rafters).

Standing Seam & Kliplok Roof Profiles

- EN 13374:2013+A1:2018 Class A and EN ISO 14122-3:2016 does not specify minimum sheet thickness for standing seam or Kliplok roofs. Suitability is determined by the structural system and fixing method, not sheet thickness alone.
- Guardrail systems shall only be installed using manufacturer-approved systems specifically designed for the relevant roof profile.
- Clamps must transfer loads through the seam/clip into the supporting structure, not through sheet pull-out resistance.
- Penetrating fixings (e.g. tek screws, rivets, or bolts) must not be used on standing seam or kliplok roof profiles unless explicitly engineered, tested and approved by both the roof and guardrail manufacturers.
- As industry guidance only typical minimum roof sheet thicknesses are:
  - Standing seam (steel): ≥ 0.48 mm
  - Standing seam (aluminium): ≥ 0.70 mm
  - Kliplok (steel): 0.42 – 0.48 mm
  - Kliplok (aluminium): ≥ 0.70 mm

  "Final acceptance shall be based on manufacturer documentation, system certification, and engineering verification"

Responsibility & System Compatibility

- KStrong accepts no responsibility for failure, malfunction or non-performance resulting from an inadequate, damaged, incorrectly assessed or unsuitable receiving structure.
- Where the verified strength of the receiving structure is less than 12 kN (e.g. lightweight aluminium roofing, concrete edges, or masonry walls), Compass software enables KStrong engineers to calculate an optimised bill of materials (BOM) appropriate to the available structural capacity.
- The guardrail system must be compatible with all other safety or access equipment used on site and must be installed strictly in accordance with KStrong instructions and recommendations.
- No alteration, substitution or modification to the guardrail system is permitted without prior written approval from authorised KStrong personnel.
- Installation by uncertified or unauthorised third parties is not recommended. In the event of third-party installation, KStrong shall not be held responsible for any failure, non-compliance, or misuse of the system.

PPE Required

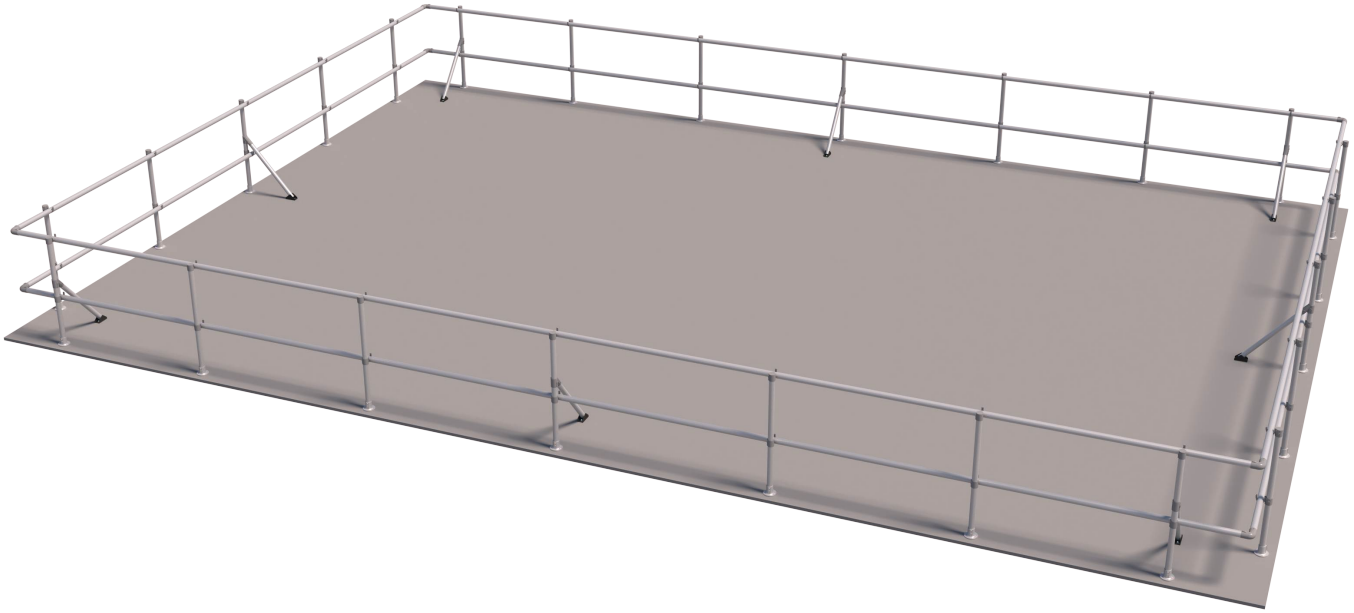
PPE equipment must be used when installing guardrails as the system does not provide fall protection until installation is complete. During installation, workers may be exposed to unprotected edges and open sides while working at height and handling tools or materials. An approved KStrong fall protection system must be correctly installed and used at all times to prevent the risk of a fall until the guardrail system is fully secured and compliant. (Refer page 33 Recommended PPE)

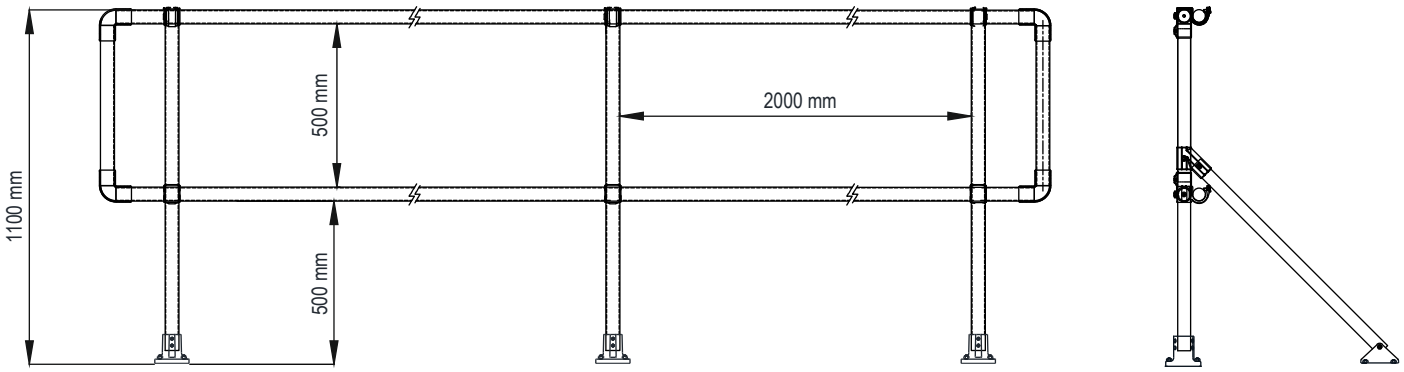
Guardrail Modular Systems

The Kstrong AFG2000 guardrail system is a modular edge protection solution designed to suit a wide range of roof types. The system provides continuous collective fall protection, allowing users to access roof areas safely while minimising impact on and protecting the roof structure.

AFG2000(CM) - GUARDRAIL TO SUIT CONCRETE ROOF

The Concrete Mounted Guardrail is a fixed edge protection system designed for concrete structures. Secured using mechanical fasteners, it provides reliable fall protection for roof edges and elevated platforms.

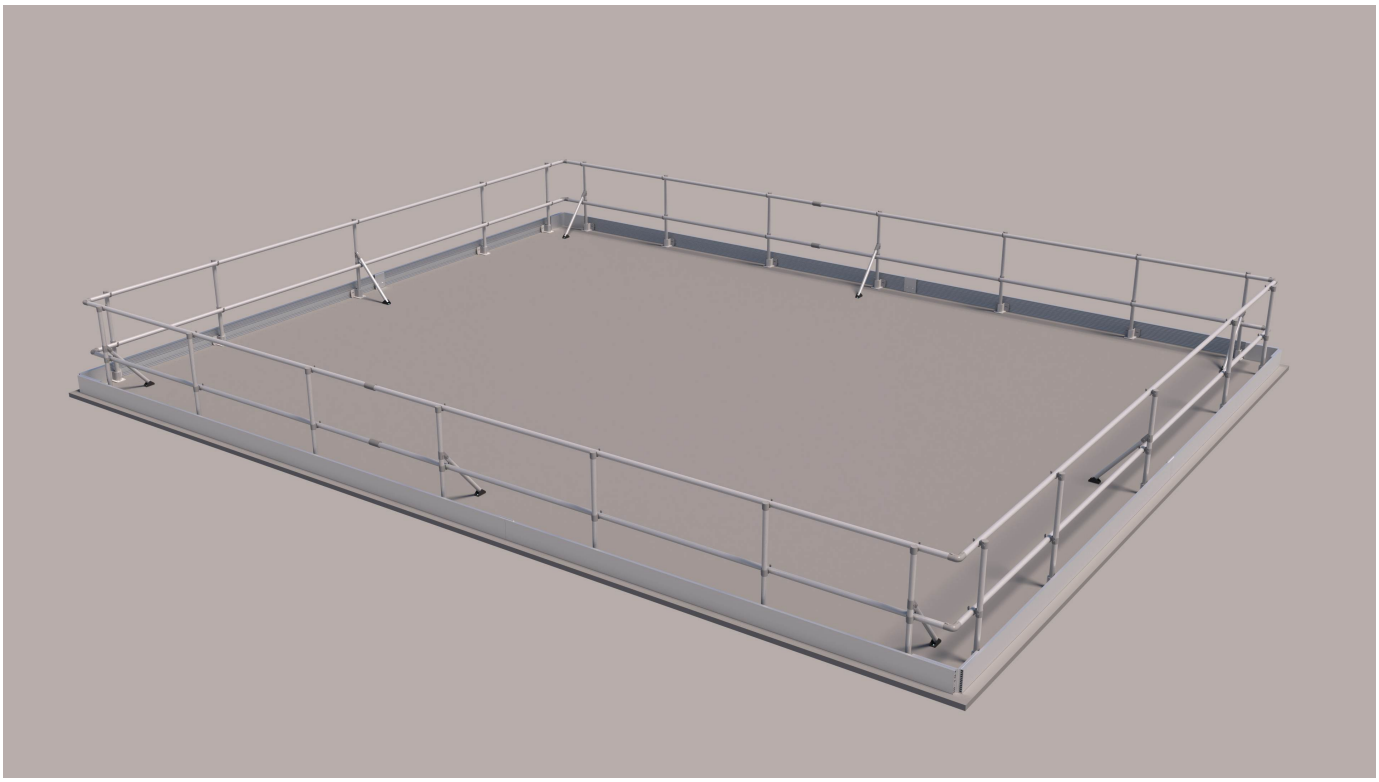


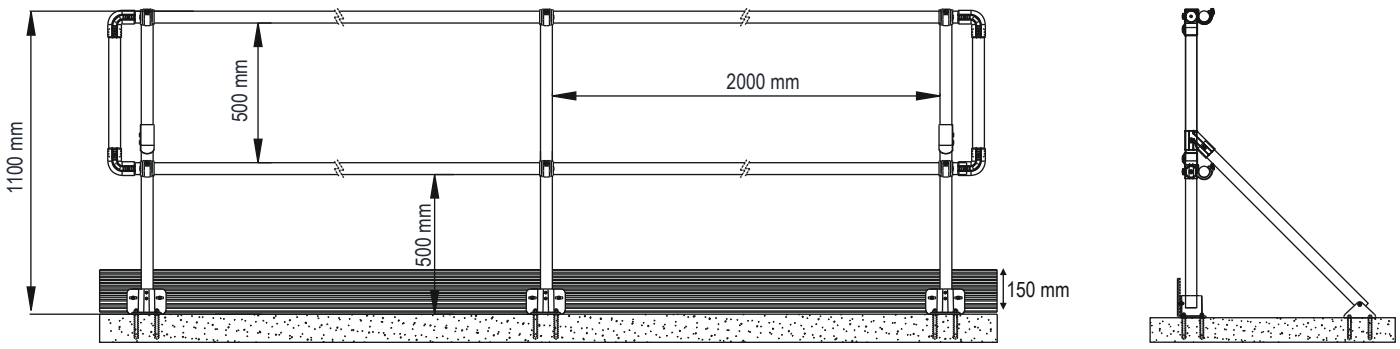


Guardrail Modular Systems

AFG2000(CM) - GUARDRAIL ON CONCRETE ROOF WITH TOE BOARD

The concrete mounted guardrail with toe boards is a fixed edge protection system designed for concrete structures. Secured using mechanical fasteners, it provides reliable fall protection while the integrated toe boards help prevent tools, materials, and debris from falling from elevated edges.



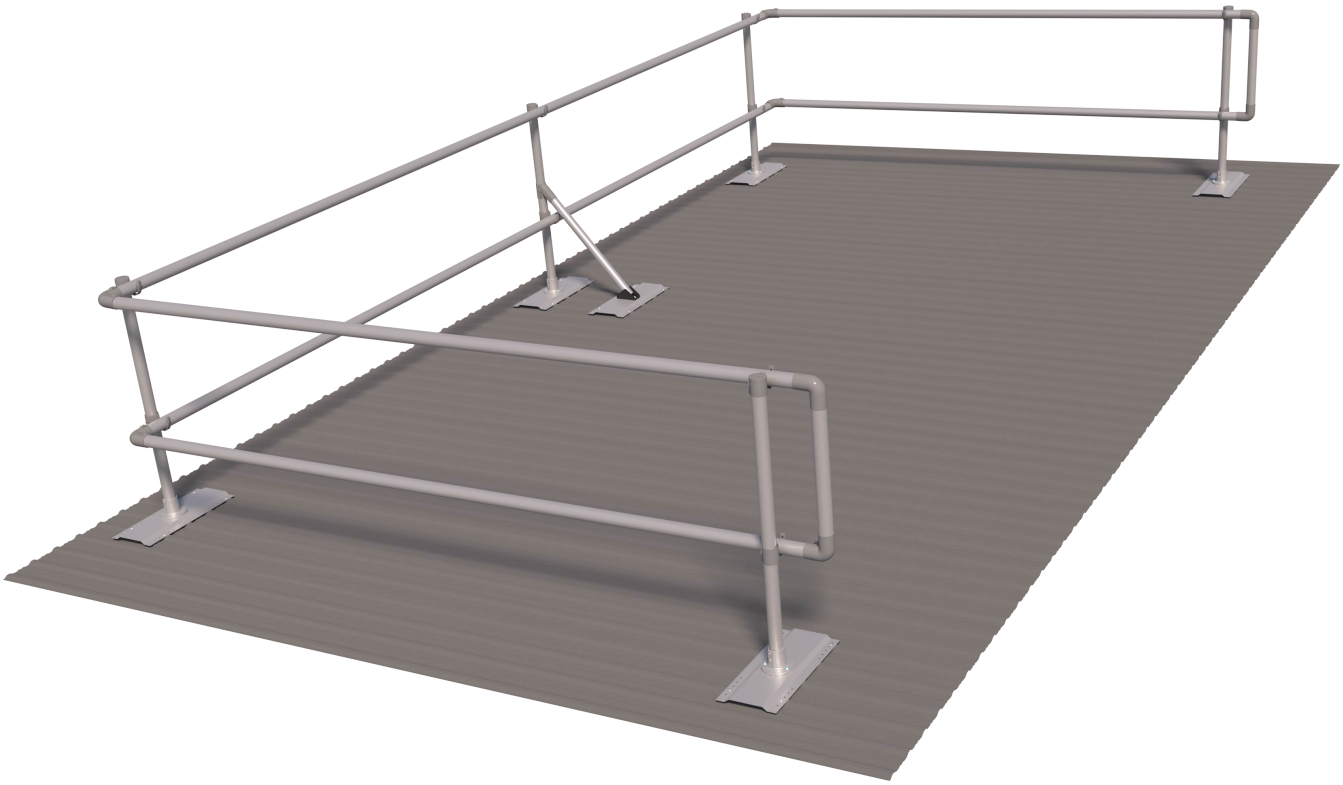


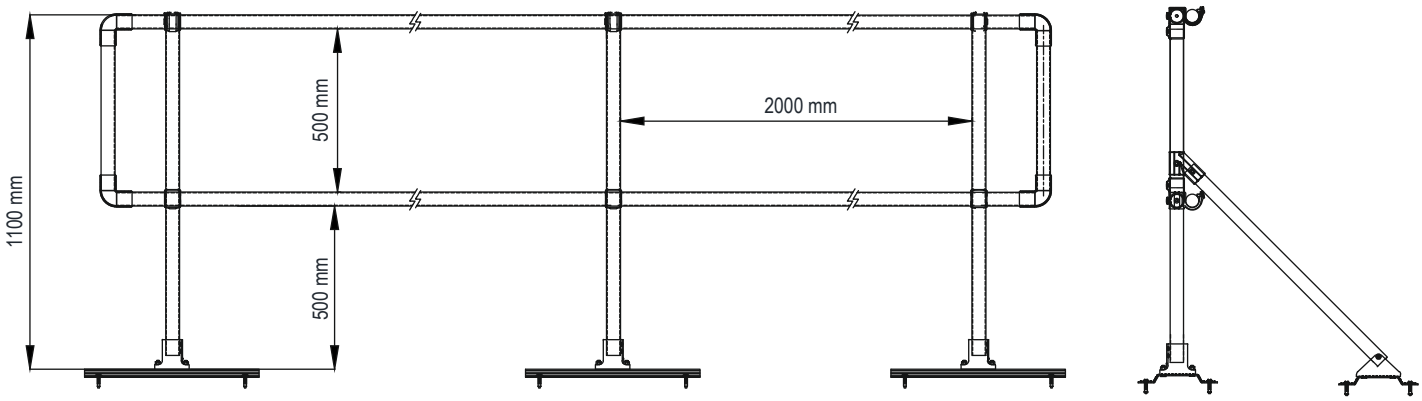
Toe boards must be installed along the edges of walkways where there is a risk that objects could fall to an area below where people may have access.

Guardrail Modular Systems

AFG2000TZ Trapezoidal Roof

The trapezoidal roof mounted guardrail is a fixed edge protection system designed for trapezoidal roof profiles. Secured using mechanical fasteners, it provides reliable fall protection while maintaining roof integrity

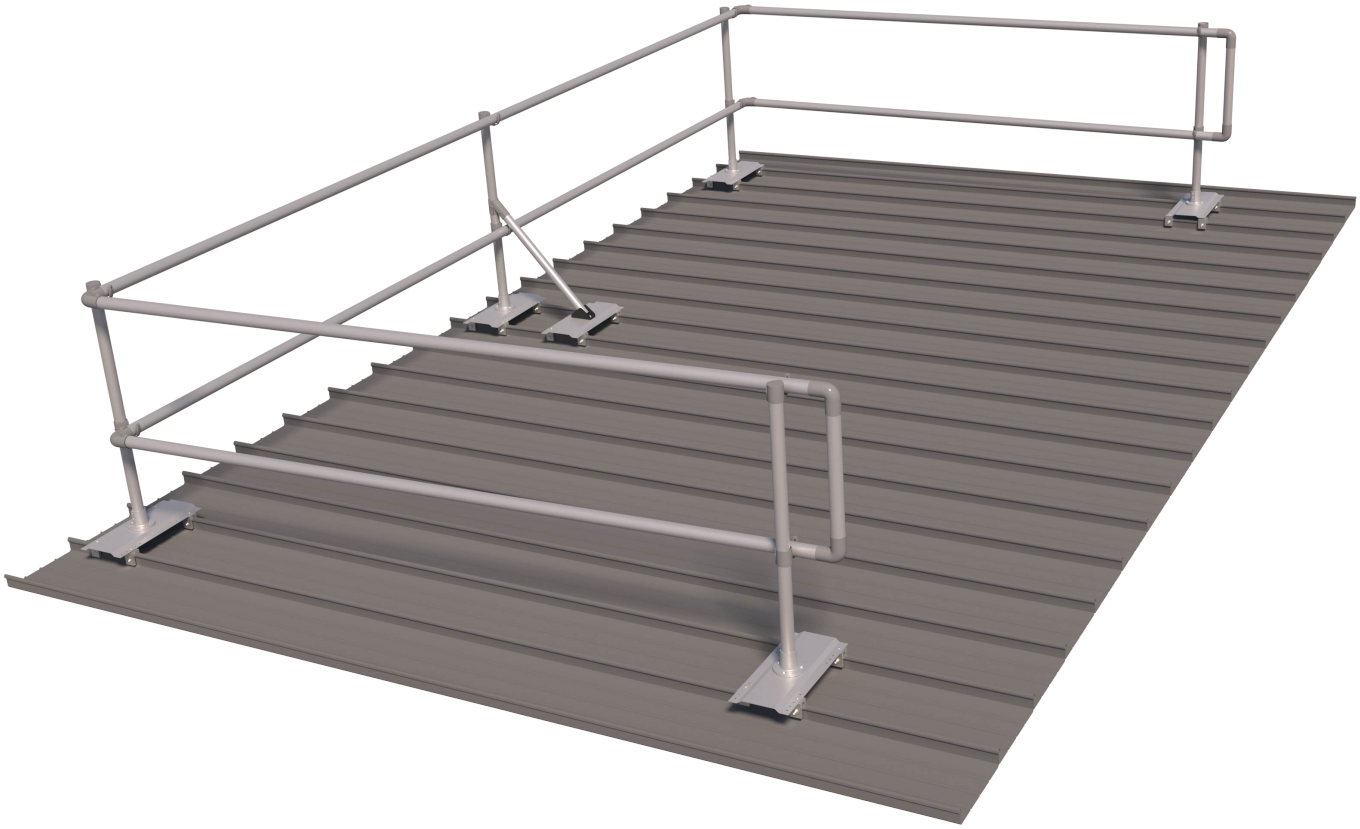


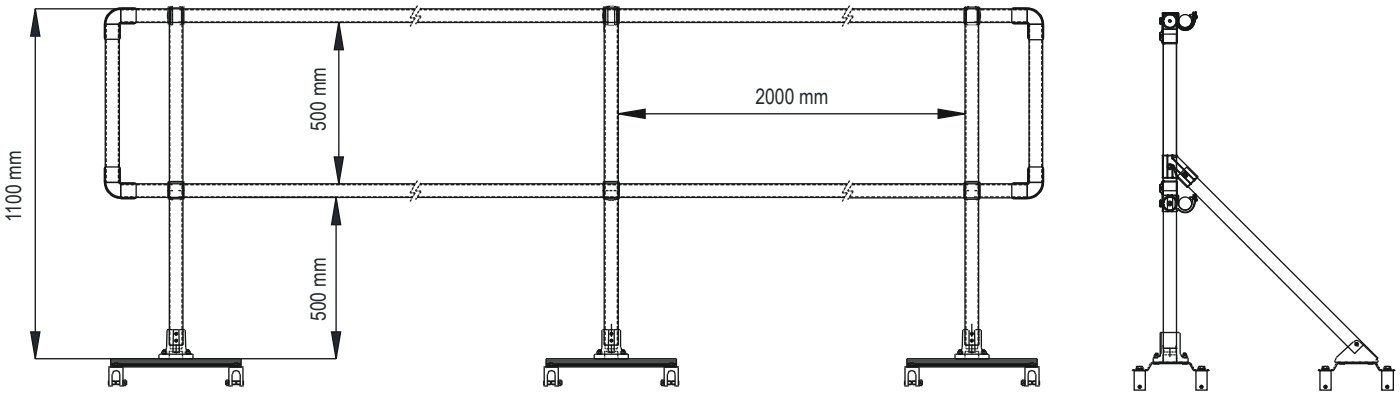


Guardrail Modular Portable System

AFG2000SS Standing Seam Roof

The standing seam roof mounted guardrail is a fixed edge protection system designed for standing seam roof profiles. Mechanically secured without penetrating the roof sheet, it provides reliable fall protection while maintaining roof integrity.

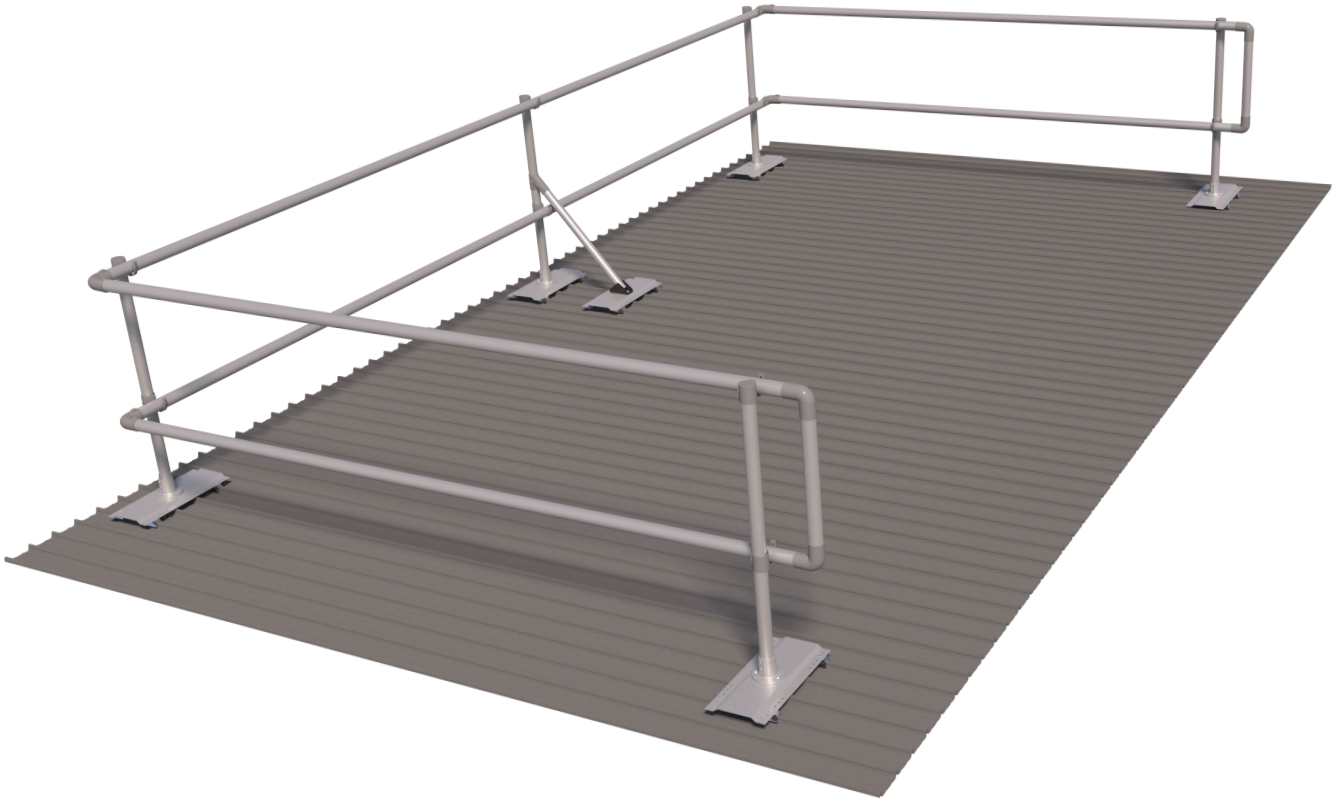


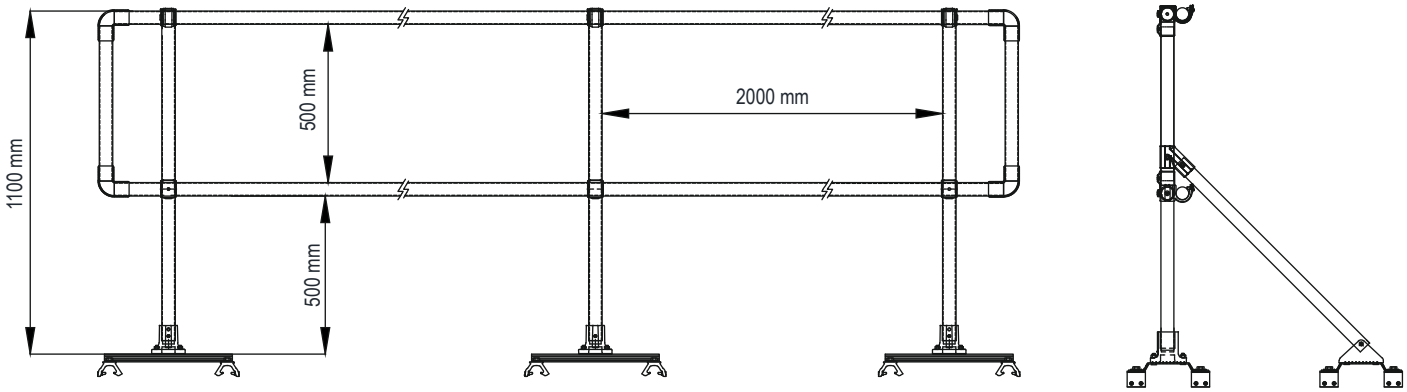


Guardrail Modular Portable System

AFG2000KL Kliplok Roof (406, 700 & 770)

The kliplok roof mounted guardrail is a fixed edge protection system designed specifically for Kliplok roof profiles. Mechanically secured without penetrating the roof sheet, it provides reliable fall protection while maintaining roof integrity.

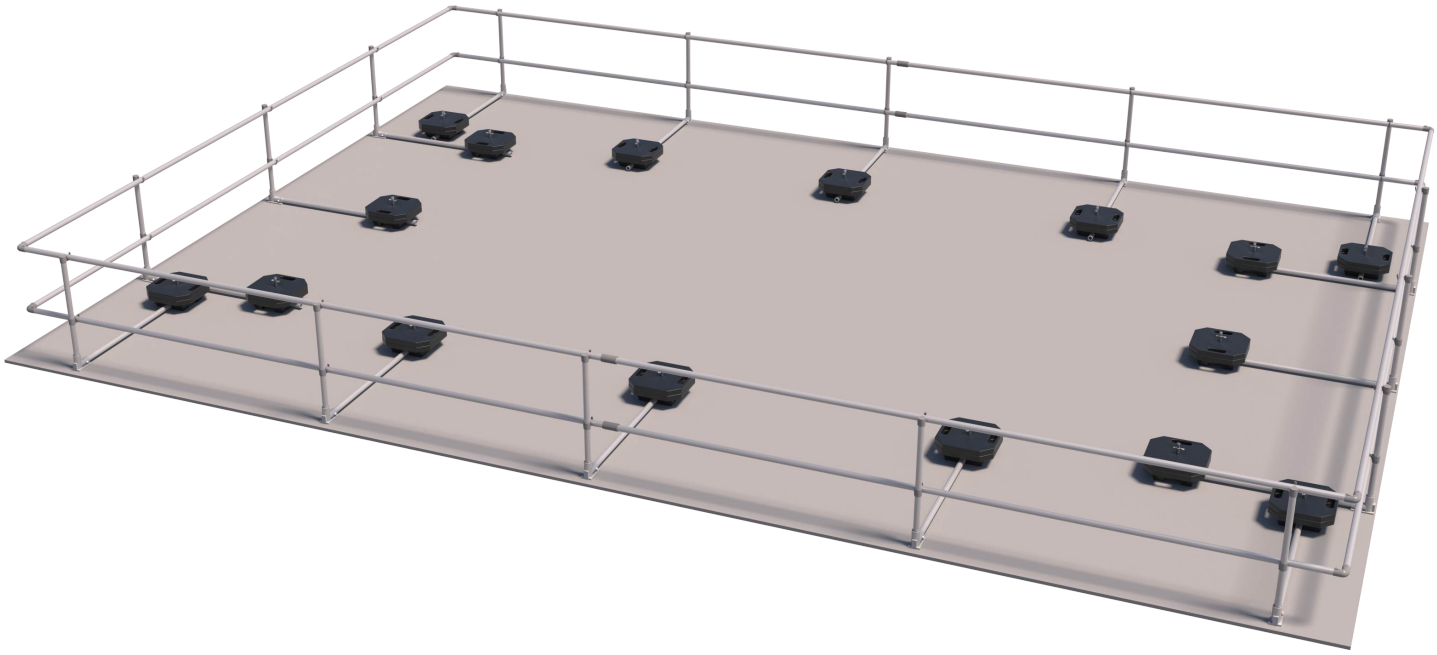


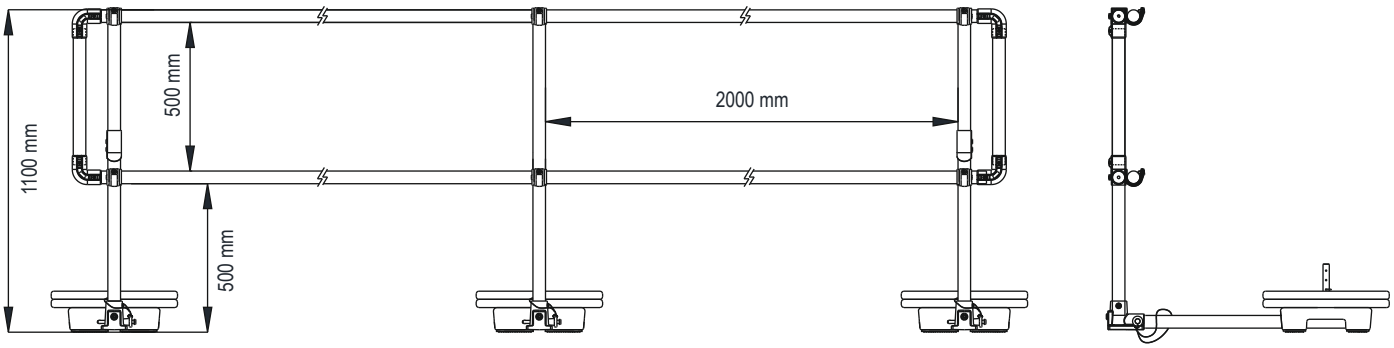


Guardrail Modular Portable System

AFG2000CW Counter Weight

The counterweight guardrail is a freestanding edge protection system designed for roofs where penetration is not permitted. Using a stable counterweight design, it provides reliable fall protection without compromising the roof membrane.

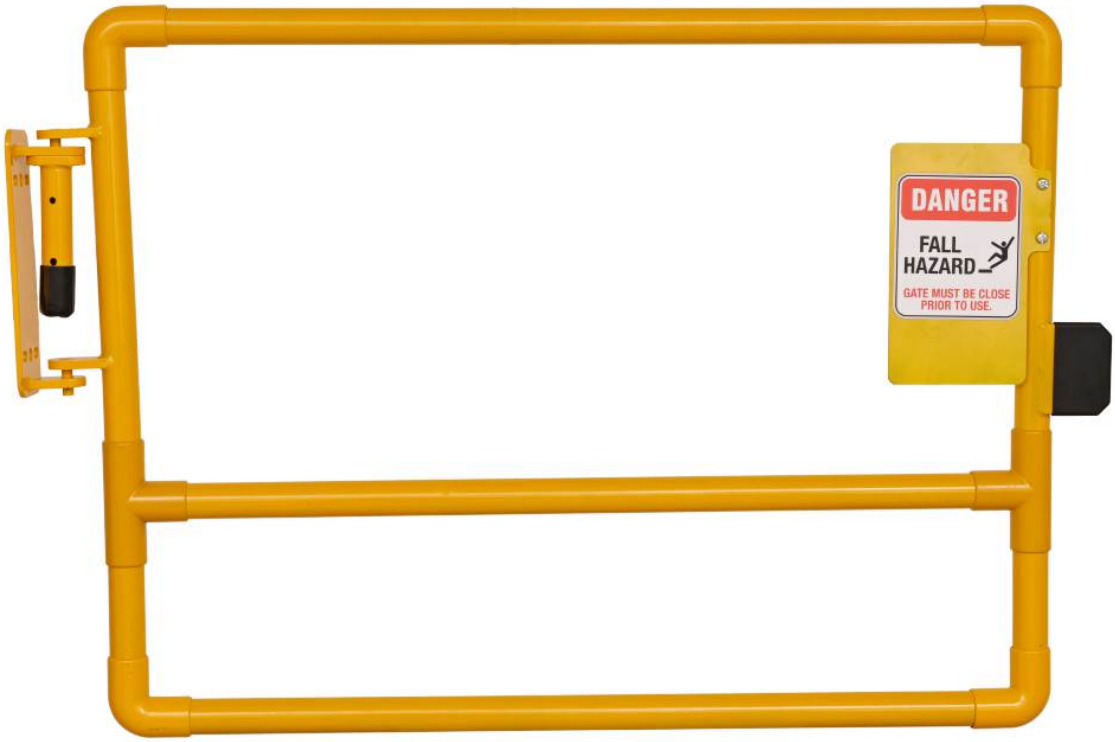


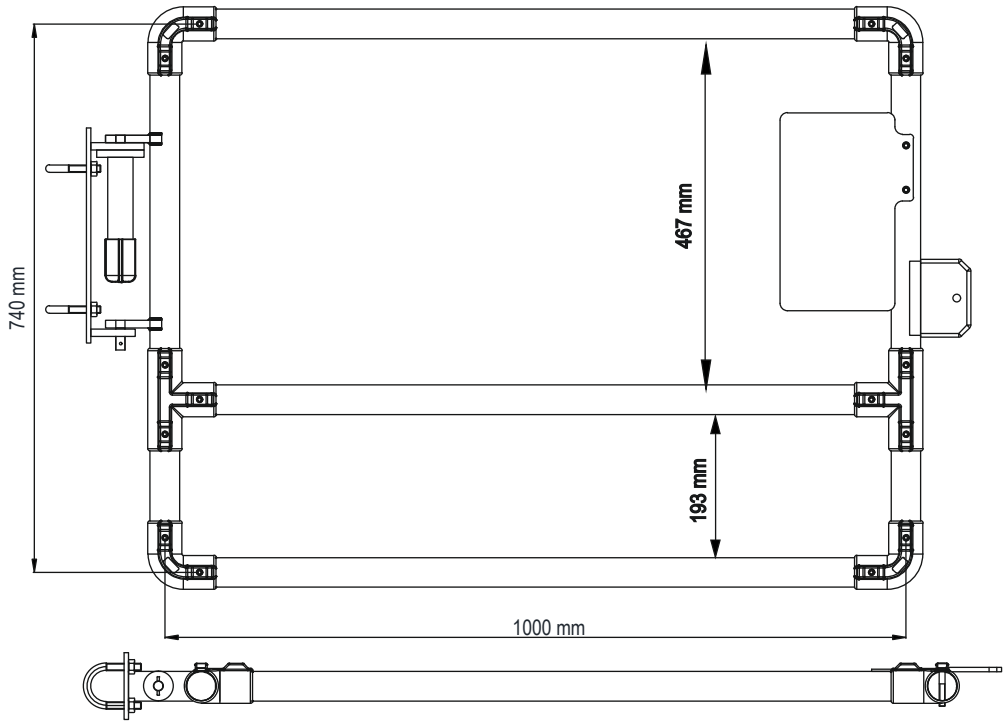


Guardrail Modular Portable System

AFKG2200 - KGATE SELF CLOSING GATE

The KGate is an optional add-on for KStrong guardrail systems, providing safe and controlled access to roof areas and platforms. Made from durable, corrosion-resistant materials, it matches the quality and strength of the guardrail system. The gate features a self closing design to maintain continuous edge protection and is easy to install.(comes pre-assembled)

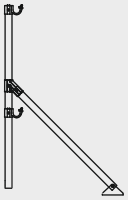
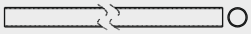
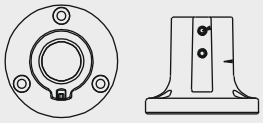
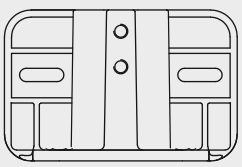
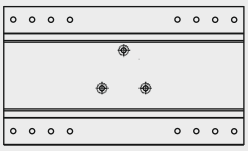




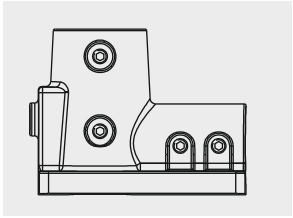
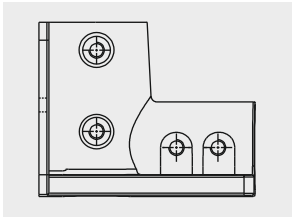
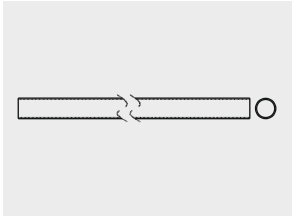
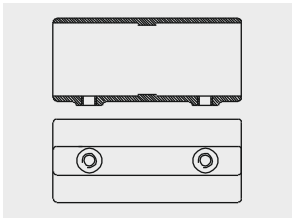
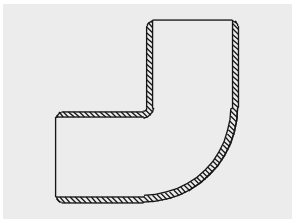
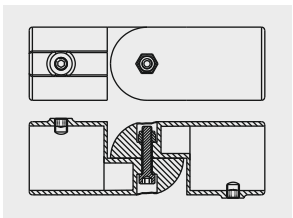
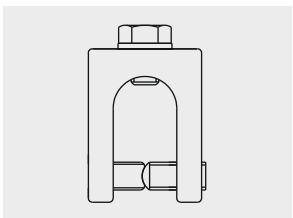
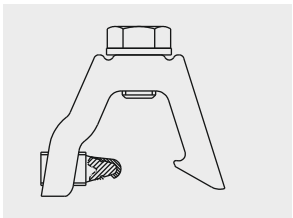
Component Chart

The chart below shows all the components of the guardrail systems with their appropriate product codes. Depending on the receiving structure the user may select appropriate posts. The quantity of the mounting posts depends upon the length of guardrail and the distance between two spans. The maximum span distance is 2000mm. Suits 0 - 7 degree roof pitch as per EN ISO 14122-3:2016.

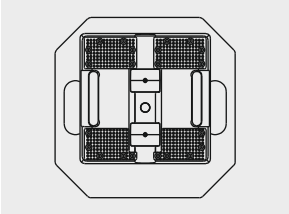
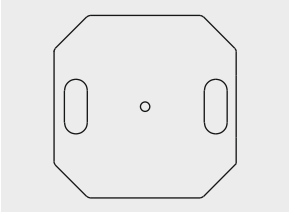
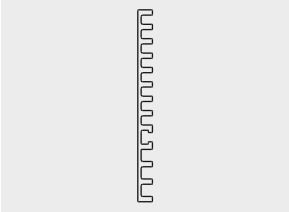
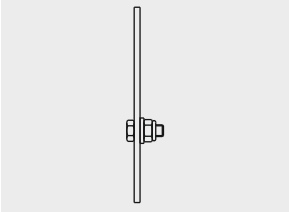
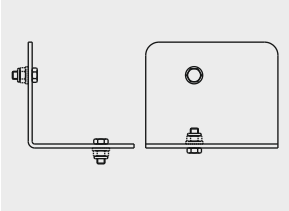
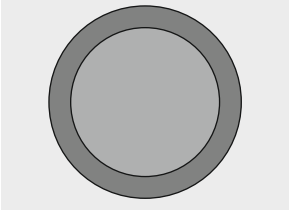
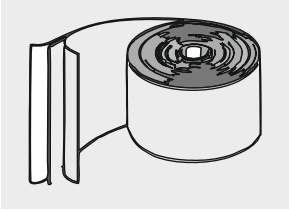
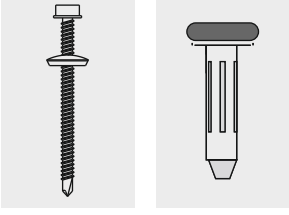
TECHNICAL SNAPSHOT

Code	Component	Drawing	Suit
AFG20001	Upright Post (1070mm)		Concrete, Trapezoidal, Standing Seam, Kliplok & Counterweight
AFG20002	Side Support Post		Concrete, Trapezoidal, Standing Seam & Kliplok
AFG20058	Top & Mid Rail (5.8m)		Concrete, Trapezoidal, Standing Seam, Kliplok & Counterweight
AFG20058(0.48m)	End Rail (0.48m)		Concrete, Trapezoidal, Standing Seam, Kliplok & Counterweight
AFG20009	Floor, Wall & Roof Mount Base		Concrete, Trapezoidal, Standing Seam & Kliplok
AFG20010	Floor & Roof Toe Board Base		Concrete, Trapezoidal, Standing Seam & Kliplok
AFG20004	Base Plate		Trapezoidal & Kliplok
AFG20003	Base Plate		Standing Seam

TECHNICAL SNAPSHOT

Code	Component	Drawing	Suit
AGR20008	Counterweight Base		Counterweight
AFG20007	Counterweight Toe board Base		Counterweight
AFR20058(1.0M, 1.5m & 1.9m),	Counterweight Extension Rail (1.0m, 1.5m & 1.9m)		Counterweight
AFG20091	Top & Mid Rail Joiner		Concrete, Trapezoidal, Standing Seam, Kliplok & Counterweight
AFG20090	90 Deg Elbow		Concrete, Trapezoidal, Standing Seam, Kliplok & Counterweight
AFG20092	Variable Corner		Concrete, Trapezoidal, Standing Seam, Kliplok & Counterweight
AFWR107	Standing Seam Clamp		Standing Seam
AFWR406, AFWR700 & AFWR770	Kliplok Clamps 406, 700 & 770 Profiles		Kliplok

TECHNICAL SNAPSHOT

Code	Component	Drawing	Suit
AFG20025	Counterweight Base Plate		Counterweight
AFA935866	Counterweight 25kg Plate		Counterweight
AFG20033	Toe Board (3m x 0.150m)		Concrete, Traezoidal, Standing Seam, Kliplok & Counterweight
AFG20037	Toe Board Joiner		Concrete, Traezoidal, Standing Seam, Kliplok & Counterweight
AFG20039	Toe Board Corner		Concrete, Traezoidal, Standing Seam, Kliplok & Counterweight
AFG20058	Plastic End Cap		Concrete, Traezoidal, Standing Seam, Kliplok & Counterweight
AFWTAPE	EPDM Weather Proof Tape		Trapezoidal
BNHX088D AFWGRIV	TEK Screws 14g x 75mm Rivets		Trapezoidal

Guardrail Design and Installation Service

The guardrail forms an integral part of any fall protection system. When movement at height occurs along a horizontal axis, it becomes essential to have a system that spans this movement to ensure continuous safety. Guardrail systems are, therefore, specially engineered solutions designed to provide secure and reliable protection in such scenarios.

KStrong offers exceptional expertise in this domain, supported by a dedicated team of trained engineers. Through their extensive experience and technical knowledge, our engineers are able to design and recommend optimal solutions that effectively address the requirements of both guardrail and walkway systems.

This offers the following advantage to the Client:

- Provide a safe solution.
- Optimize the cost of the solution through engineered products.
- Safeguard the underlying structure on which the walkway is installed.

KStrong uses the latest design software like CAD, and Structural Design Software like StaadPro to accurately design a suitable guard rail system, and simulate the forces applied to structure.
It is also extremely important for the client to be confident of the system installed. KStrong also provides services for annual on-site inspection and revalidation of these systems.

Why is Revalidation of Fall Protection Equipment important?
Fall protection equipment are life saving products. As per the EN 365 of PPE Directives, it is mandatory to have a 'Competent Authority' inspect the Fall Protection Equipment at least once annually.

Installation

General

Installers Responsibilities

- It is the installers' responsibility to familiarize themselves with the European Standards and all local legislation prior to installation.
- End users must be trained in the correct use of KStrong guardrail systems and must receive read and understand the user instructions supplied.
- Only components manufactured and supplied by KStrong can only be used with prior approval before installation.
- It is the installers responsibility to ensure that the “approved” fittings are fit for the purpose to ensure the system is fully warranted.
- Under no circumstances can a KStrong component be modified or replaced by a component from another supplier.

Prior to Installation, if unsure of the suitability of the structure, consult a structural engineer.
⚠ The installation of the system shall be carried out only by trained authorized personnel of KStrong. The installation steps given below are a brief indication of the procedure, only for the purpose of information to the user. KStrong does not take any responsibility for consequences of installation of the system if it is carried out against an authorized written recommendation by KStrong. It is necessary to ensure the safety of the installer at all stages of installation through use of correct PPE. It is also important to use correct tools as recommended by KStrong for installation.
Under no circumstances can a KStrong component be modified or replaced by a component from another supplier.

Guardrail Positioning
Distance measured from the closest point of the guardrail to the roof edge. Actual placement may vary depending on roof slope, parapet, or structural conditions. Always verify with site-specific calculations. The guardrail must be installed as close as possible to the edge that requires protection or a must have a maximum gap of 120mm between the edge of the working surface and the protection (to prevent passage of a person or fall hazards).

Installation

Load Limits:

Do not exceed the maximum load capacity as defined in EN 13374:2013+A1:2018 Class A and EN ISO 14122-3:2016. Guardrails are designed to resist forces applied per the relevant class (A, B, or C).

Post Spacing

- Class A (low slope up to 10°): Maximum spacing of 2.0 m between posts.
- Class B (slopes up to 30° or 10° with limited fall height): Maximum spacing of 2.0 m, but with additional loading requirements
- Class C (slopes up to 45°): Requires specific design (often nets or mesh panels), so the distance varies depending on tested system design.
- For Side support posts it is recommended to be installed every six meters in the Guardrail system.

Heights and Gap as per EN 13374

- The top edge of the guardrail system must be at least 1,000 mm above the working or walkway surface.
- The space between the top and mid rail cannot be less then 470mm.
- The distance between the mid rail and the floor surface must not exceed 470mm.
- If a toe board is installed the distance from the toe board to the mid rail must not exceed 470mm.
- The toe board must be at least 150mm high with a maximum gap between the toe board and the walking surface of 10 mm.

Post & Fixings - Designed to support rails and toe boards under the performance requirements of EN 13374:2013+A1:2018 Class A.

Heights and Gap as per EN 14122-3

- The top edge of the guardrail system must be at least 1,100 mm above the working or walkway surface.
- The space between the top and mid rail must not exceed 500mm.
- The distance between the mid rail and the floor surface must not exceed 500mm.
- If a toe board is installed the distance from the toe board to the mid rail must not exceed 500mm.
- The toe board must be at least 100mm high (150mm considered best practice) with a maximum gap between the toe board and the walking surface of 10 mm.

Post & Fixings - Designed to support rails and toe boards under the performance requirements of EN ISO 14122-3:2016.

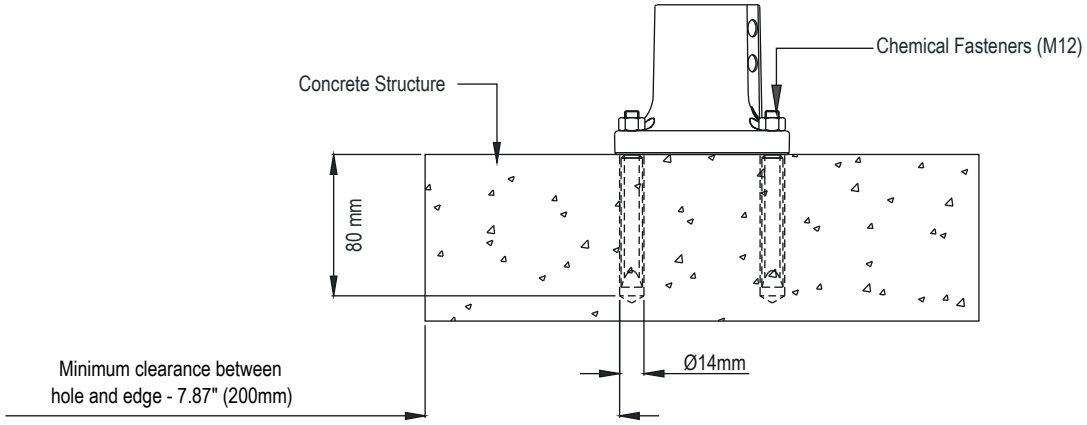
Layout and Marking:

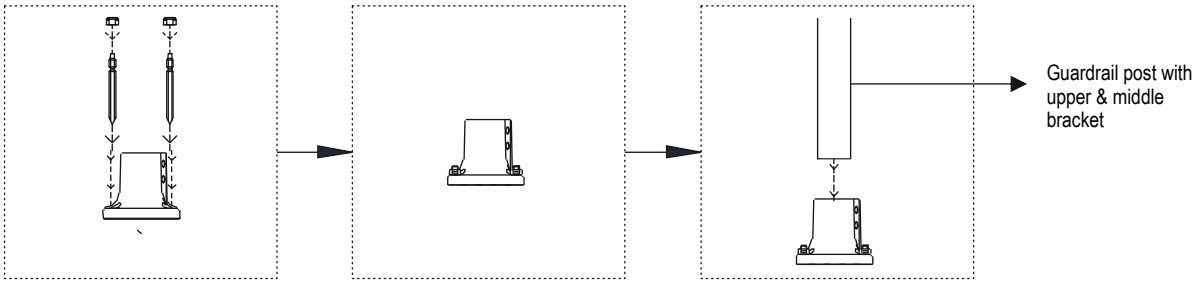
- Verify that the structure or roof sheet is clean, dry and free of debris.
- Confirm all components correspond to the correct roof profile and layout drawing.
- Inspect clamps and base plates for damage or deformities prior to assembly.
- Identify the fixing location per layout drawings and mark the position for each base plate.
- Mark post positions at intervals not exceeding 2.0m
- Mark side support posts at intervals not exceeding every 6m (not counterweight)
- Ensure spacing between posts complies with system design and relevant standards.
- Establish the guardrail line using a chalk line or string.
- Ensure sufficient clearance for fittings and rail overlap at junctions.
- Where the system terminates at a wall or structure, plan for end fixings or return rails to maintain continuous protection.

Concrete Installation - Base Mount AFG20009

Preparation:

- The concrete thickness shall be sufficient to accommodate the required anchor installation depth and prevent cracking or concrete breakout.
- The supporting concrete shall have a minimum thickness of 200 mm and a minimum compressive strength of 32 MPa, or as specified by the approved project engineering design.
- M12 chemical anchors shall be installed using an approved chemical adhesive in accordance with the anchor manufacturer's installation instructions (e.g. Hilti Technical Documentation).
- The centre of each anchor shall be located not less than 200 mm from any free edge unless otherwise approved by the project engineering design.
- The guardrail system may also be installed on suitable concrete walls, provided the supporting structure meets the specified engineering and anchor requirements.





Step - 01 **Step - 02** **Step - 03**

Step 1:

- Mark the location for the hole.
- Set the drill depth to 80mm and drill a 14mm diameter hole.
- Clean the hole, ensuring it is free of moisture and dust.
- Inject the chemical pouch into the hole as per the manufacturer's instruction.
- Insert the chemical anchor into the drilled hole, and leave enough thread protruding to allow for the base thickness + enough thread for nut/washer, generally 20 mm to 30 mm protruding from the hole.
- Remove any excess adhesive from the hole.

Step 2:

- Once the adhesive is cured, install the base mount, washer and tighten the nut to 50Nm.

Step 3:

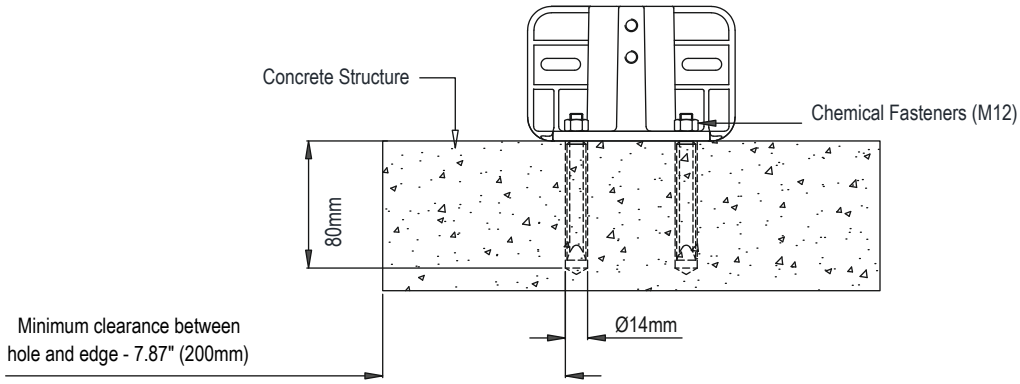
- Refer guardrail post installation page 26

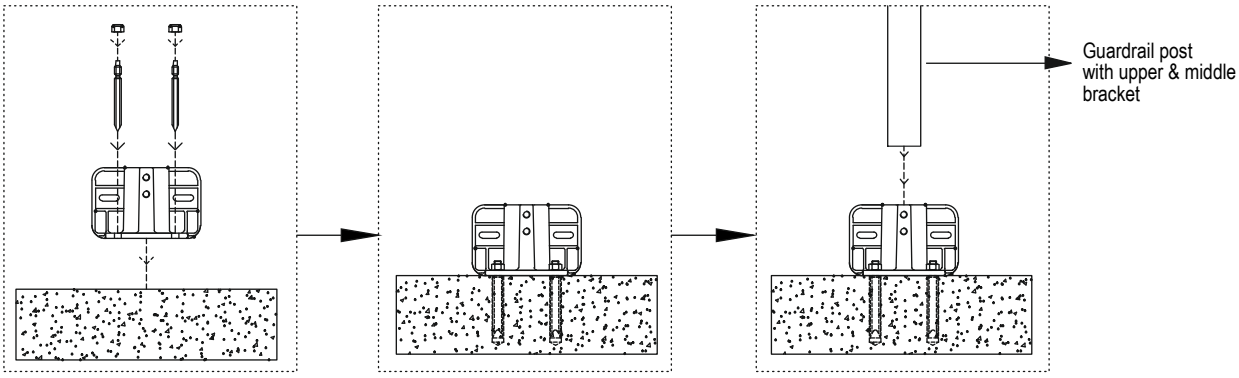
KStrong authorized chemical anchor suppliers are listed below. Refer to manufacturer’s installation requirements.

- Hilti
- Fischer
- Sika.

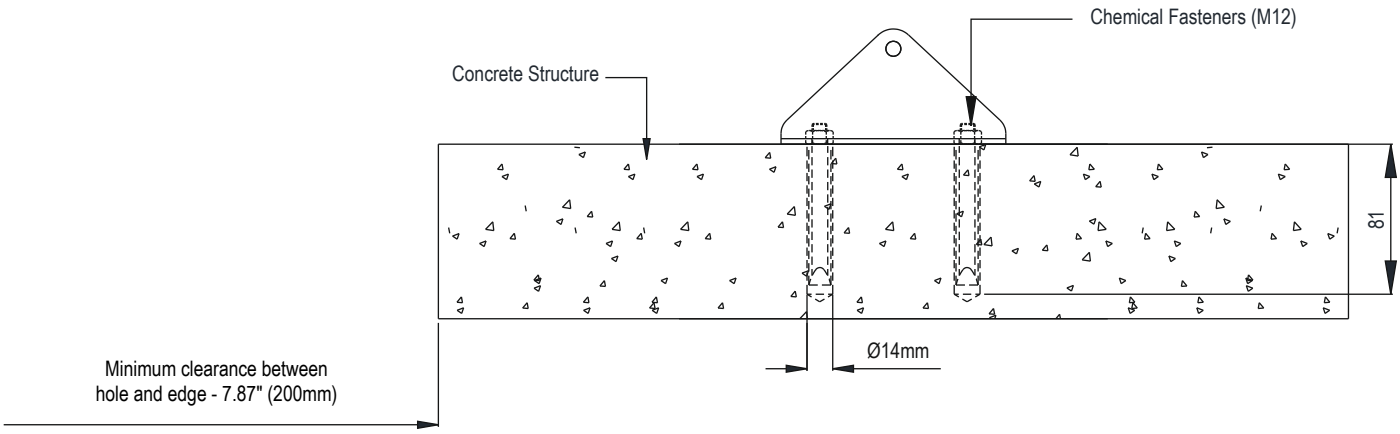
Now repeat for base installation on concrete with toe board & support mount

Concrete Installation - Base c/w Toe Board Mount AFG20010

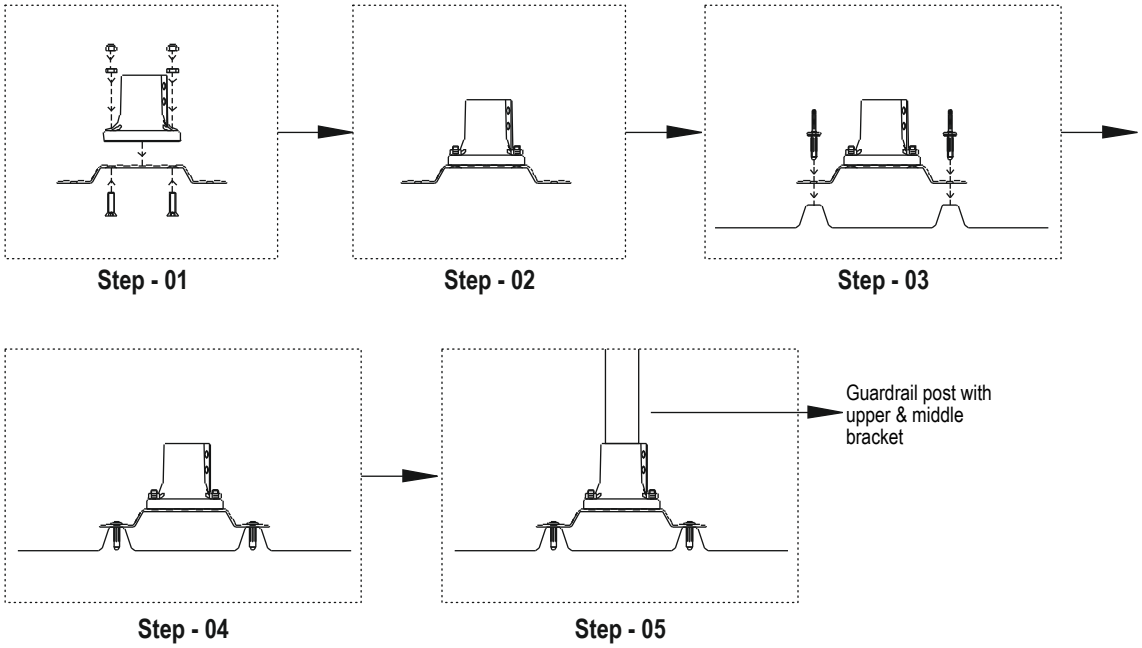




Concrete Installation - Side Support Bottom of AFR20002



Installation -Trapezoidal Roof AFG20004 & AFG20009



Step 1 & 2

- Attach the base post mount onto the base plate.
- Align the base mount holes with those on the base plate and insert the mounting bolts and loosely tighten.
- Once aligned, tighten all bolts to the specified torque settings. Ensure torque setting is 18Nm.
- Double-check that the base post mount is rigid and free from movement.

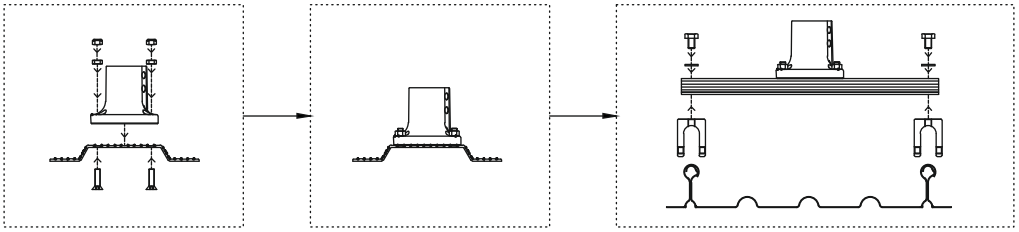
Step 3 & 4

- Apply adhesive water proofing membrane (EDPM tape) under rivet position on base plate between the base plate and roof sheet to prevent water ingress.
- Align the base plate over the trapezoidal sheet, ensuring it sits evenly across the ribs.
- Secure the base plate using the specified fixings through the high points of the roof sheet ribs.
- Ensure fixings penetrate the roof sheeting and engage with the structural purlin beneath.
- Tighten all fixings to the manufacturer's recommended torque value. (refer torque chart page 35)
- Confirm that the base plate is level and securely fastened.

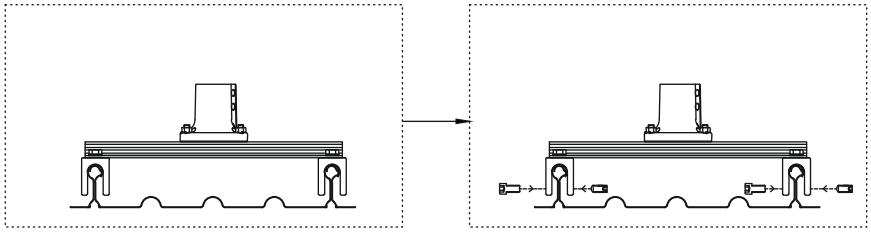
Step 5

- Refer guardrail post installation page 26.

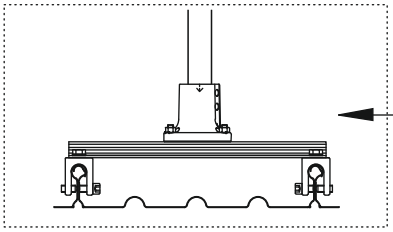
Installation - Standing Seam Roof AFG20004, AFG20009 & AFWG107



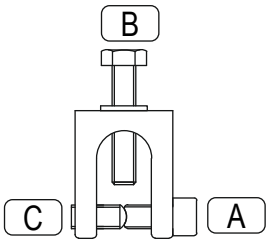
Step - 01 Step - 02 Step - 03



Step - 04 Step - 05



Step - 06



Standing Seam Clamp

Step 1 & 2

- Attach the base post mount onto the base plate.
- Align the base mount holes with those on the base plate and insert the mounting bolts and loosely tighten.
- Once aligned, tighten all bolts to the specified torque settings. Ensure torque setting is 18Nm.
- Double-check that the base post mount is rigid and free from movement.

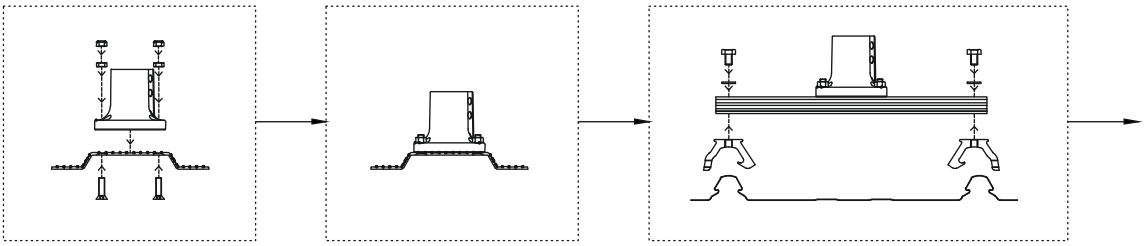
Step 3, 4 & 5

- Position the base plate on the work surface with the standing seam clamps mounting points facing upward.
- Place each standing seam clamps beneath the base plate alignment holes or slots.
- Ensure clamp orientation matches the roof seam direction (parallel to seam lines).
- The allen bolt (refer A) side of each clamp should face outward for easy torque access once on the roof.
- Insert the bolt (B) through the base plate hole and into the standing seam clamp body.
- Once aligned, tighten all bolts to the specified torque settings. (refer to the torque setting is Page No 35)
- Verify that all bolts are secure and the base plate sits flush with the clamp tops — no gaps or rocking movement should be present.

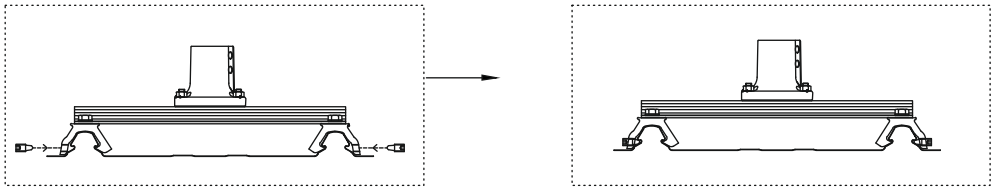
Step 6

- Refer guardrail post installation page 26.

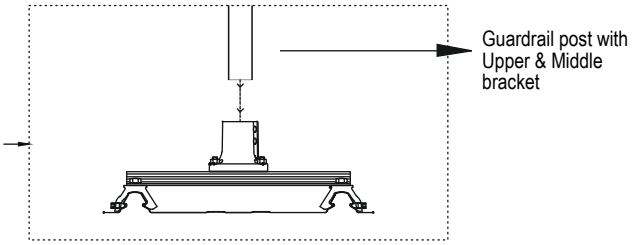
Installation - Kliplok Roof AFG20004, AFG20009 & AFWG770/700/406



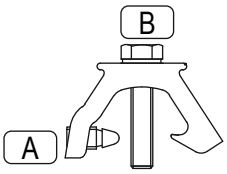
Step - 01 Step - 02 Step - 03



Step - 04 Step - 05



Step - 06



Kliplok Clamp

Step 1 & 2

- Attach the base post mount onto the base plate.
- Align the base mount holes with those on the base plate and insert the mounting bolts and loosely tighten.
- Once aligned, tighten all bolts to the specified torque settings. Ensure torque setting is 18Nm.
- Double-check that the base post mount is rigid and free from movement.

Step 3, 4, & 5

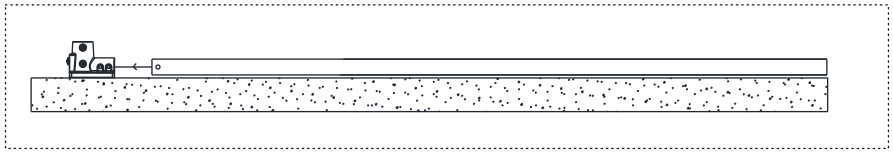
- Check clamps suit the roof profile (e.g. kliplok 406, 700 or 770)
- Position the base plate on the work surface with the clamps mounting points facing upward.
- Place each clamp beneath the base plate alignment holes or slots.
- Ensure clamp orientation matches the roof seam direction (parallel to seam lines).
- The allen bolt (refer A) side of each clamp should face outward for easy torque access once on the roof.
- Insert the bolts through the base plate holes and into the clamp body. (refer B)
- Once aligned, tighten all bolts to the specified torque settings.(refer to the torque setting is Page No 35)
- Verify that all bolts are secure and the base plate sits flush with the clamp tops — no gaps or rocking movement should be present.

Step 6

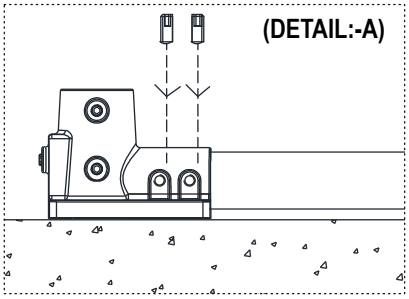
- Refer guardrail post installation page 26.

Installation - Counter Weights AFG20008, AFR20025 & AFG935866

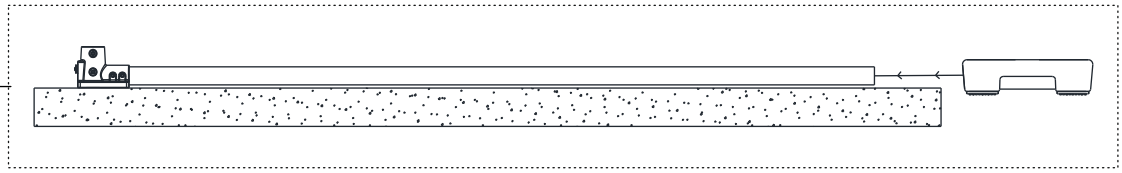
Base Installation Counter Weights



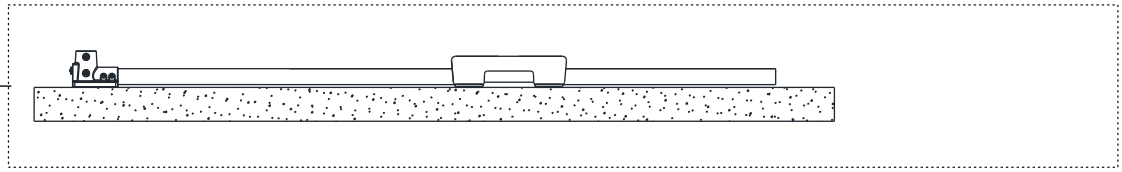
Step - 01



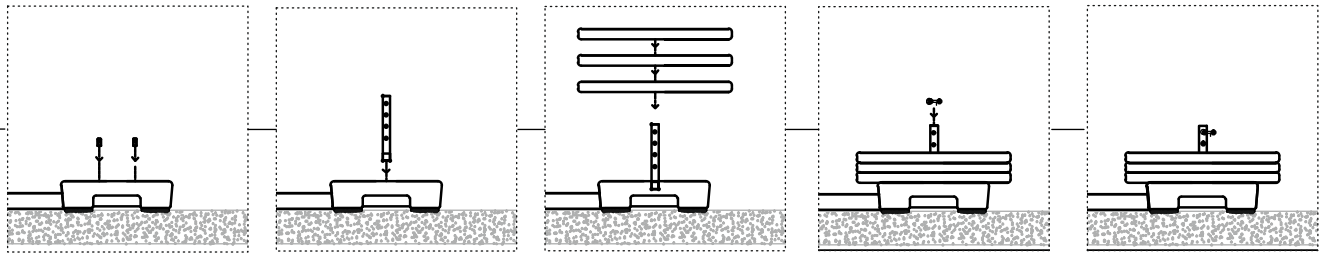
Step - 02



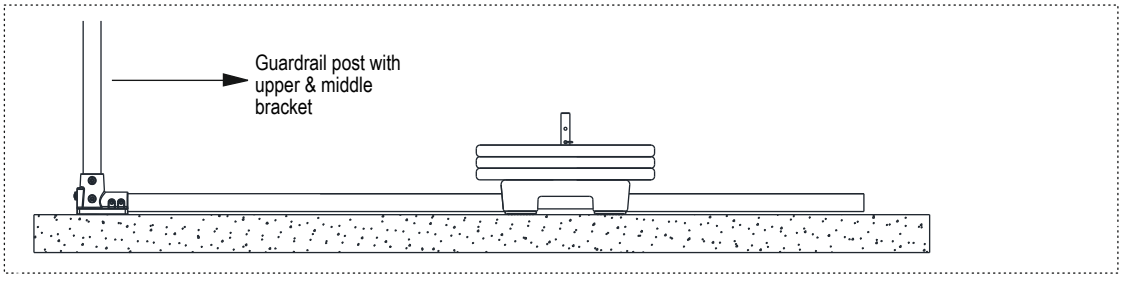
Step - 03



Step - 04



Step - 05 | Step - 06 | Step - 07 | Step - 08 | Step - 09



Step - 10

Step 1, 2, 3 4 & 5:

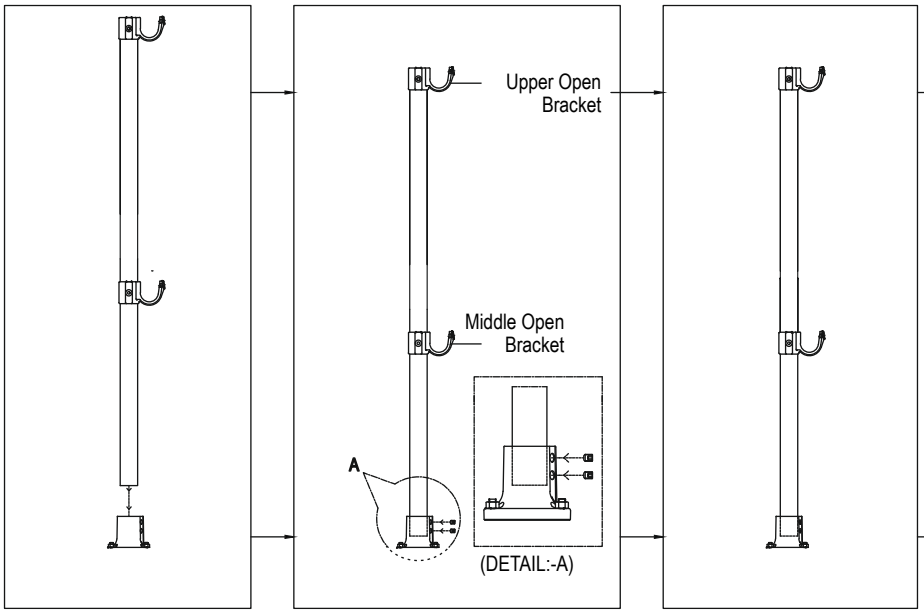
- Position the counterweight base at the designated location on the roof surface.
- Adjust the base position so that the post mount faces the correct direction (typically perpendicular to the roof edge).
- Insert tube into base and tighten grub screws.
- Attach the counter weight base to tube and then tighten the mounting bolts to secure.
- Once aligned, tighten all bolts to the specified torque settings. (refer to the torque setting is Page No 35)

Step 6,7,8 & 9

- Insert steel rod into top of counterweight base.
- The number of counterweights shall be determined by the approved KStrong engineering design.
- Place the counterweight plates (25kg each) as per the system design required over the steel rod and secure with locking pin.

Step 10: Refer guardrail post installation page 26.

Installation - Guard Rail Post AFG20001



Step - 01 Step - 02

Upright Post Installation

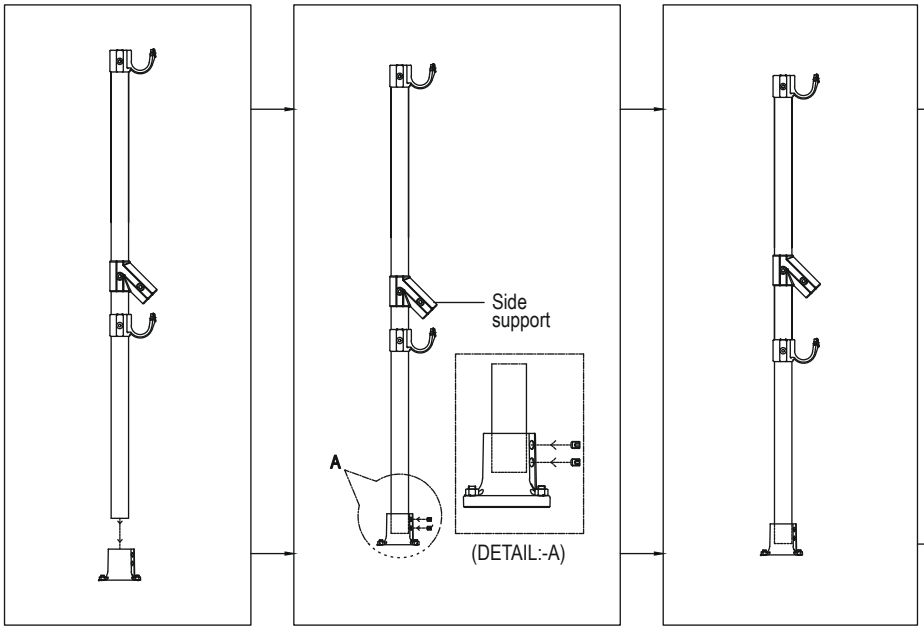
Step 1:

- Insert the guardrail post into the base mount.

Step 2:

- Lock the post in position using the designated grub screws and tighten to 14Nm.
- Ensure posts are aligned vertically and evenly spaced.
- Check post height uniformity using a string line along the top fixing point.

Installation - Side Support Post AFG20002



Step - 01 Step - 02

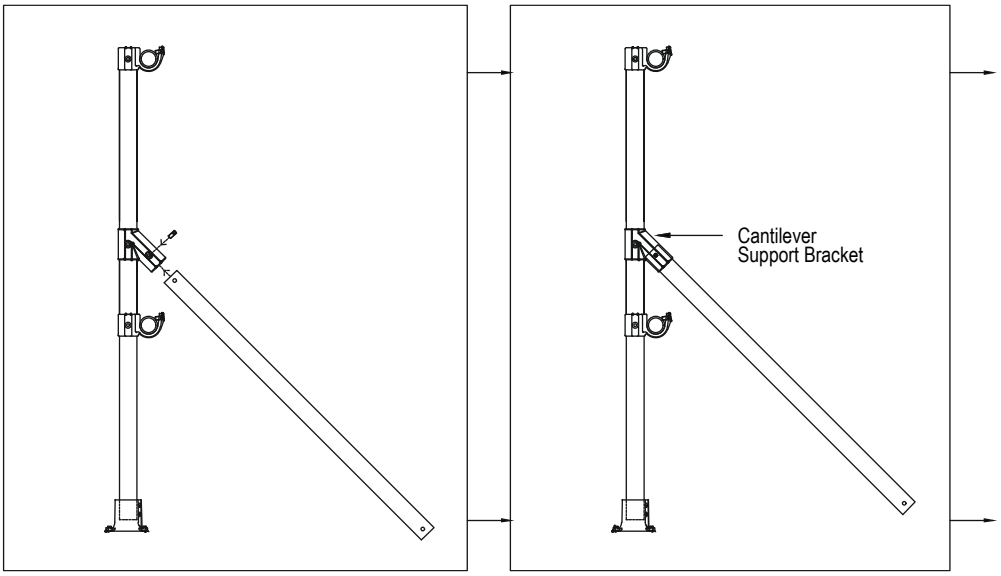
Step 1:

- Insert the guardrail post into the base mount.

Step 2:

- Lock the post in position using the designated grub screws and tighten to 14Nm.
- Ensure posts are aligned vertically and evenly spaced every 6m.
- Check post height uniformity using a string line along the top post point.

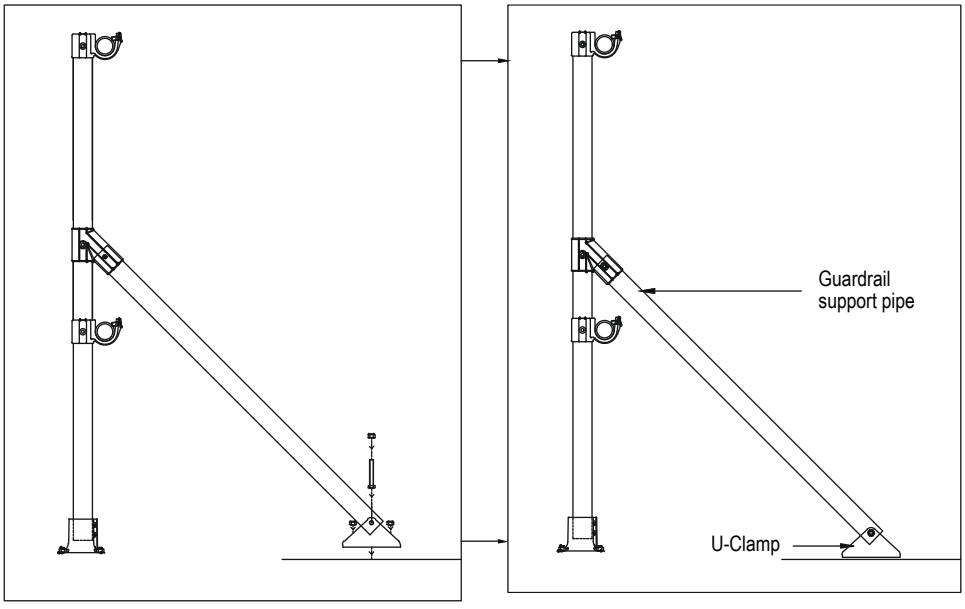
Installation Side Support Posts AFG20002 Continued:



Step - 04

Step 4:

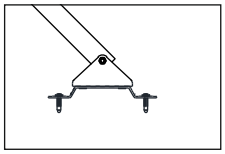
- Insert the side pipe into the mounting bracket (refer A)
- Lock the pipe in position using the designated grub screws and tighten to 14Nm.



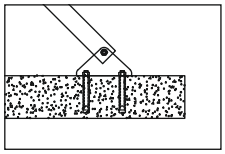
Side support Post **Step - 05**

Step 5:

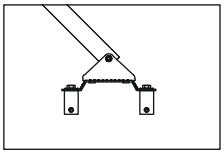
- Attach U Clamp to the bottom of the pipe and tighten to 15Nm. (refer step 5)
- Repeat the same process for the rest of the side support posts in the systems.
- U Clamp can be installed on the follwing



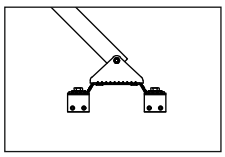
Install on Trapezoidal roof with Rivets 7.7 x 27.7 Long (Green seal)



Install on a concrete (refer concrete installation instructions page 19)



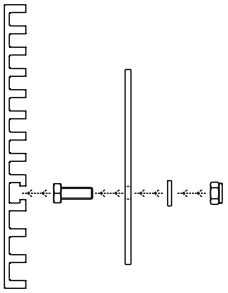
Installed on standing seam roof with Standing Seam Clamps



Install on Kliplok roof with Kliplok Clamps

Installation of Toe Board

Toe board AFR20033 & Joiner Bracket AFR20037

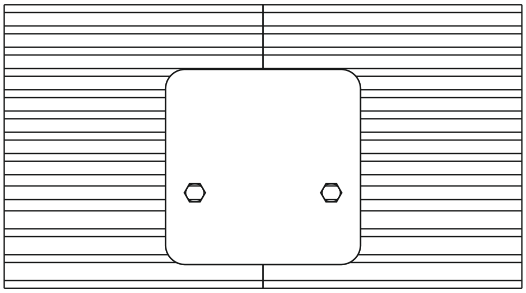


Step - 01

Side View

Step - 02

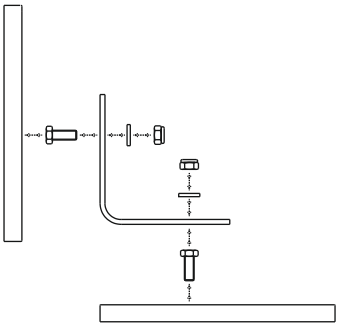
Side View



Step - 03

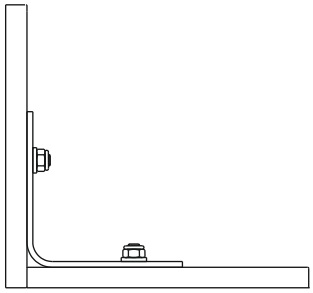
Front View

Installing the Corner Bracket AFR20039



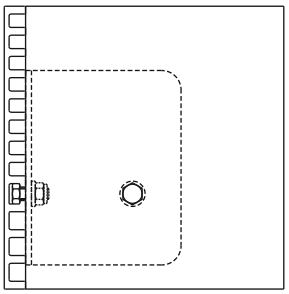
Step - 01

Top View



Step - 02

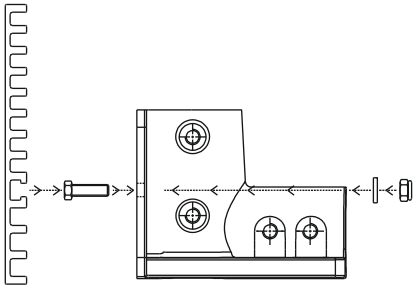
Top View



Step - 03

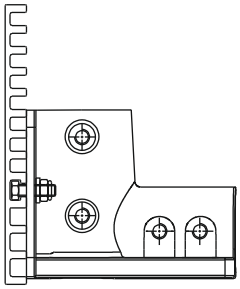
Front View

Installing the Counterweight Post Mount AFR20008



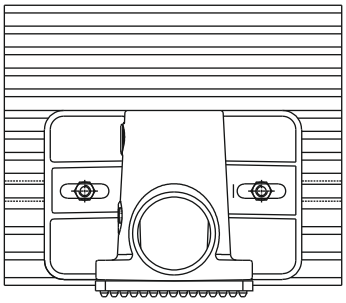
Step - 01

Side View



Step - 02

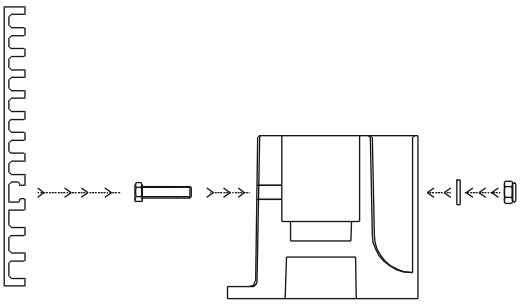
Side View



Step - 03

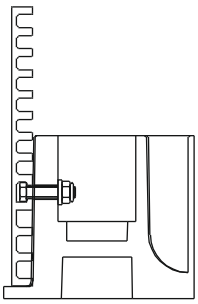
Front View

Attach the Toe Board to Concrete Base Post Mount AFR20010 & AFG20033



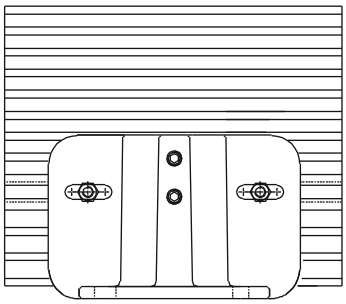
Step - 01

Side View



Step - 02

Side View



Step - 03

Front View

Step 1: Position the Toe Board

- Align the toe board flush against the inner edge of the Guardrail base.
- Check that the board runs continuously along the base without gaps.
- If multiple toe boards are required, overlap or butt-joint them as per system design (typically max 5 mm gap).

Step 2: Attach the Toe Board

- Slide the toe board fixing bolts through the end of channel rib in the board and then insert thru Guardrail base.
- Fit washers and nuts on the inner side.
- Tighten bolts hand-tight first to align all sections.
- Use a torque wrench to tighten to 20–25 Nm (unless otherwise specified).
- Verify that the toe board is firmly seated and flush along its full length.
- Ensure all bolts are fully tightened and washers seated properly.
- Confirm no sharp edges, protruding bolts, or gaps.
- Verify correct alignment and height consistency.

Step 3: 90° Corner Installation

- Place both toe boards so they meet at the corner point.
- The boards should form a clean right angle (90°) with ends either butt-jointed or overlapped, depending on system design.

Step 4: Installing the Corner Bracket / Connector

- Align the corner bracket on the inner or outer face (as specified) so both toe boards sit firmly against it.
- Slide the bolts through the end of the channel rib in both toe boards.
- Add washers and nuts, hand-tighten initially.

Step 4: Final Tightening and Alignment

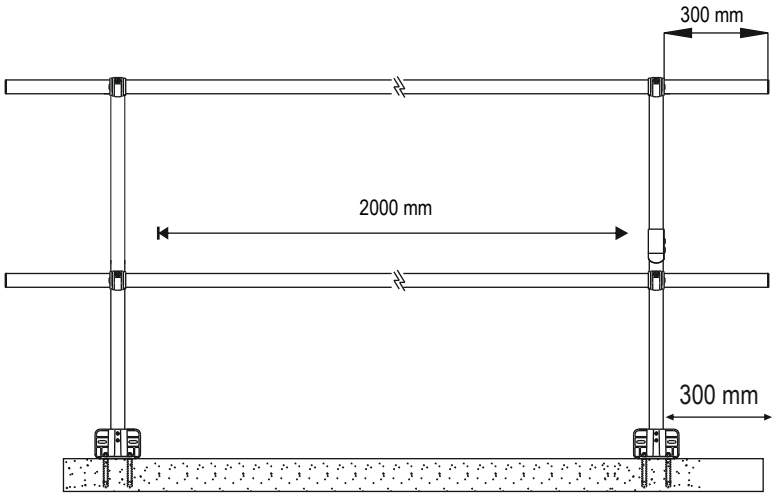
- Check the boards are level and form a true 90° angle.
- Tighten all fasteners evenly to 20–25 Nm using a torque wrench.
- Confirm that the corner junction is flush, stable, and without gaps that could compromise debris containment.

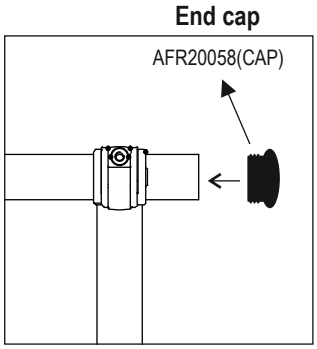
Optional Seal or Cap (if required)

- For systems exposed to the public or weather, install the toe board end cap or sealant bead at the junction to prevent debris ingress.

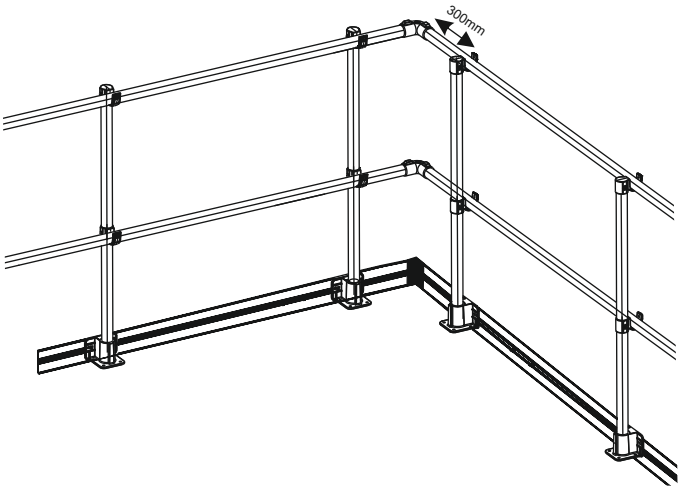
Guardrail and Corner Overhang

Ensure that at the end of each guardrail section, the top rail, mid-rail, and toe board do not overhang the final post by more than 300mm. Once the rails are installed, fit plastic end caps to all exposed rail ends.



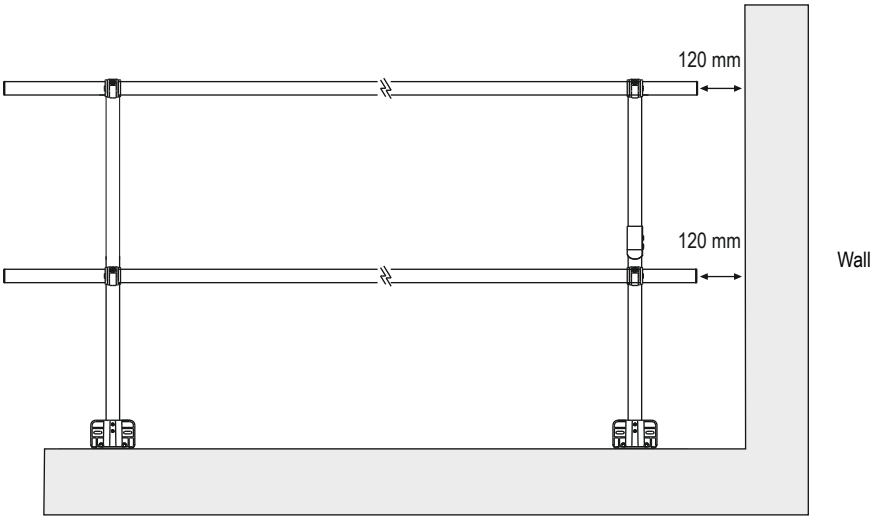


Ensure the guardrail top rail, mid-rail, and toe board do not overhang past the corner post more than 300mm, measured in each direction.

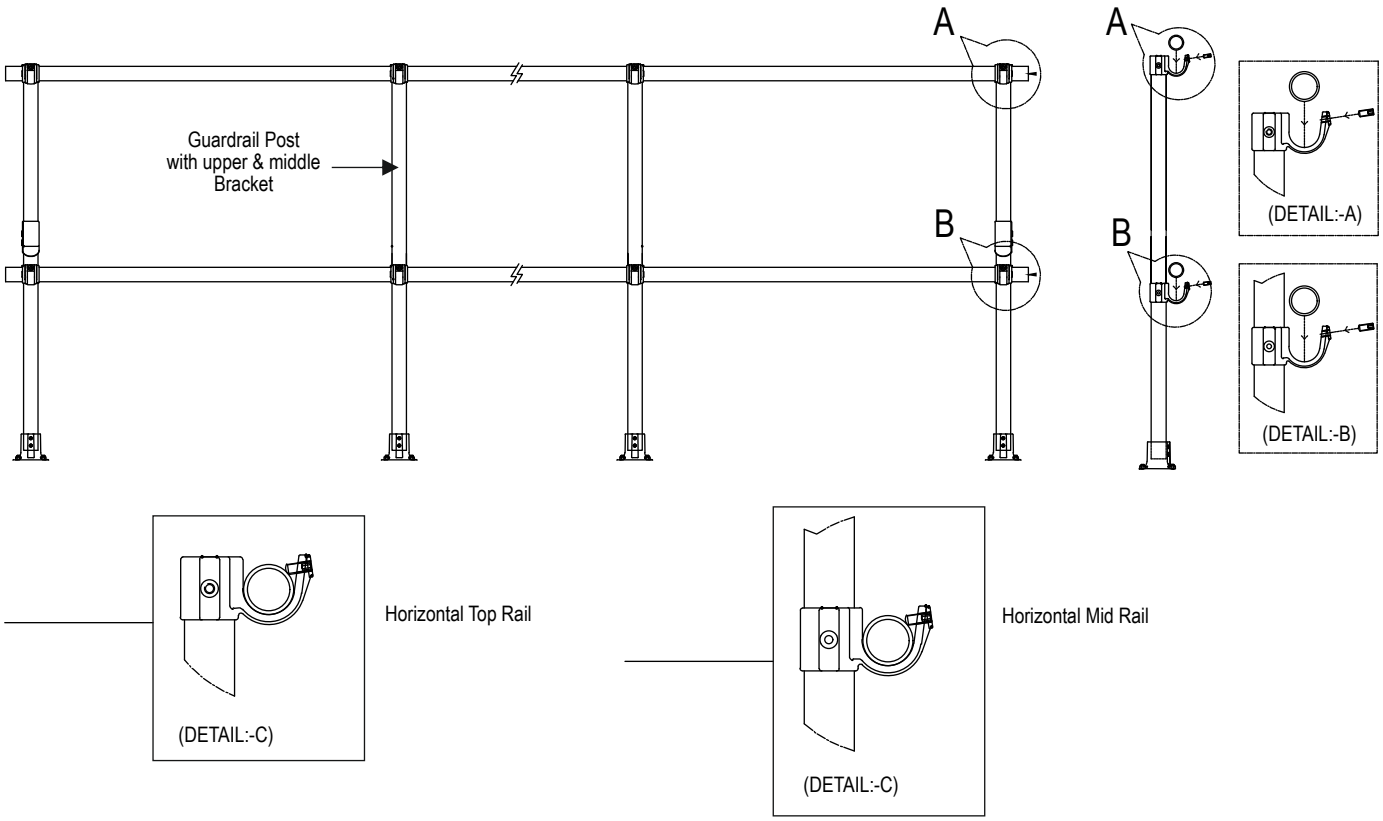


Hand Clearance

The gap between the guardrail (top rail or mid-rail) and a wall shall not exceed 120 mm.



Installation - Top and Mid Rail AFG20058



Step 1:

- Insert guardrail pipes into the top bracket (refer detail A)
- Insert guardrail pipe into the middle bracket (refer detail B)
- Lock the rails in position using the designated grub screws and tighten to 10Nm. (refer detail C)
- Repeat the same process for the rest of the posts and rails in the systems.

Joining of Top & Mid Rail Joiner AFG20091

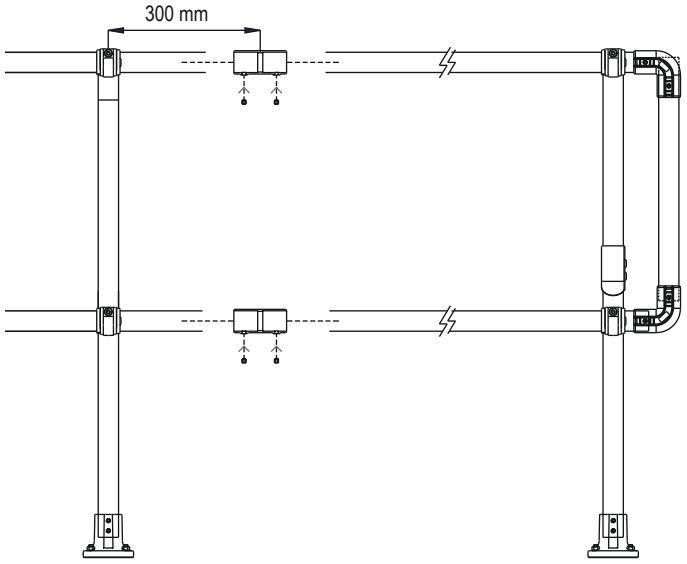
The joiner shall be installed no more than 300mm from a supporting post.

Step 1:

- Measure 300mm from the centerline of the post to the center of the joiner.
- Join two lengths of rail and slip the joiner directly over each end of the rail.
- Lock the rails in position using the designated grub screws and tighten to 14Nm.

Step 2

- Repeat the same process for the rest of the rails in the systems, including the toe board.



Installation of Extremity Ends AFG20058(0.48M) & AFG20090

Step 1:

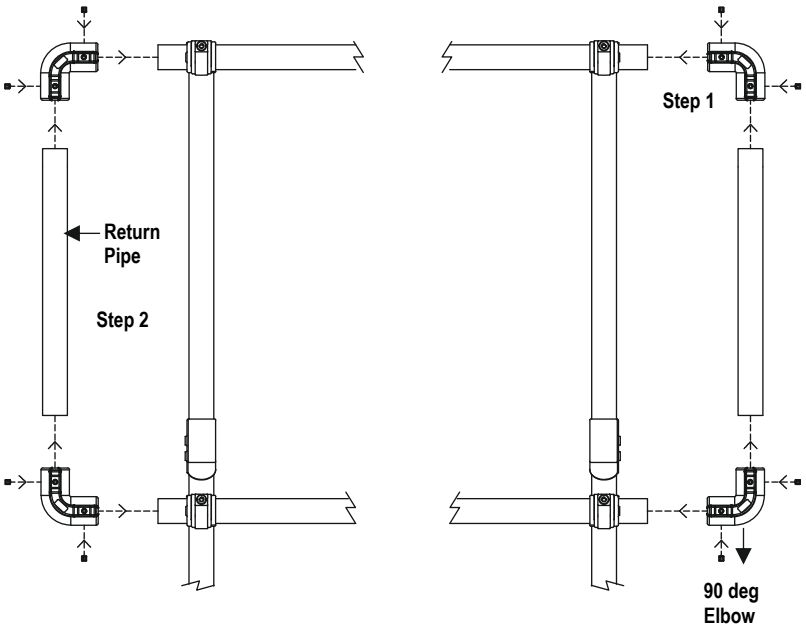
- Slip the 90 deg elbow directly over the end of the top rail.
- Adjust the elbow to achieve the correct return angle - typically 90° inward from the edge.
- Lock the elbow in position using the designated grub screws supplied and tighten to 14Nm.

Step 2

- Connect the return pipe section (horizontal length) to the opposite end of the 90 deg elbow .
- Align and ensure the return rail sits level with the main top rail.
- Tighten all grub screws on the elbows and verify the joint is rigid.
- Now repeat for bottom rails.

Step 3:

- Insert plastic caps in ends of rail, if required.



Installation of Corner Elbow and Variable Corner Bend AFG20090 & AFG20092

Step 1:

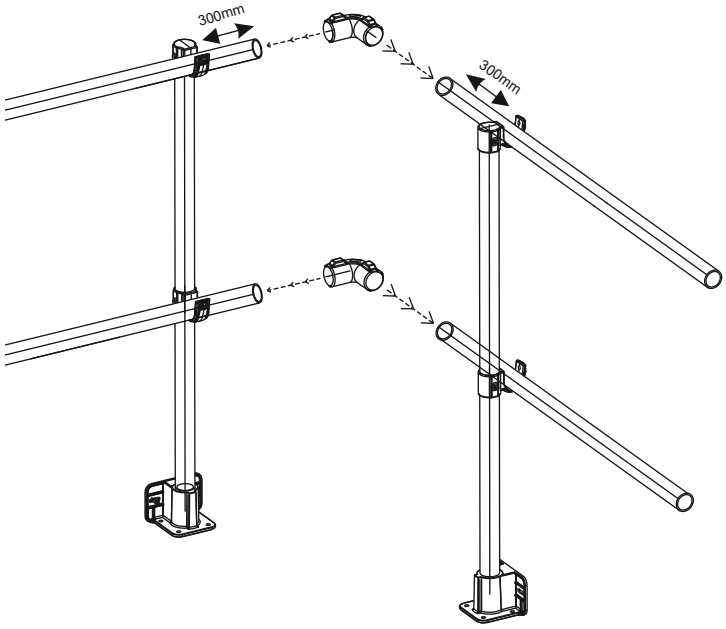
- Slip the corner elbow or variable corner bend over the end of the top rail.

Step 2:

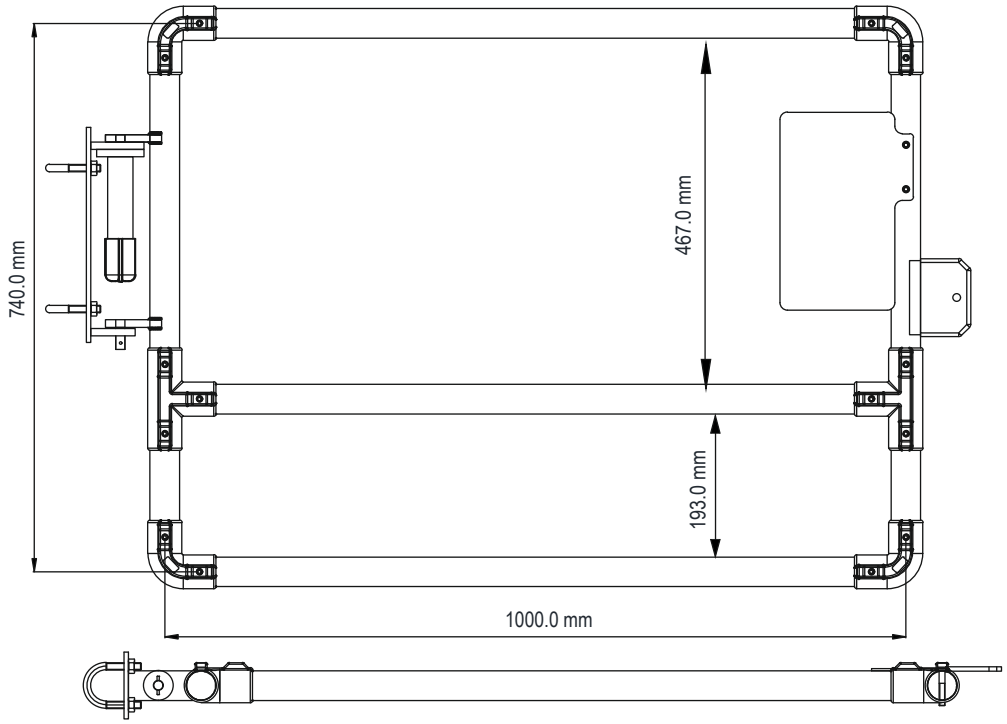
- Adjust the elbow or variable corner bend to achieve the correct angle required.
- Lock the elbow in position using the designated grub screws supplied and tighten to 14Nm.

Step 3:

- Now repeat for mid rail.



Installation of KGate AFKG2200 YELLOW OR AFKG2200G GREY

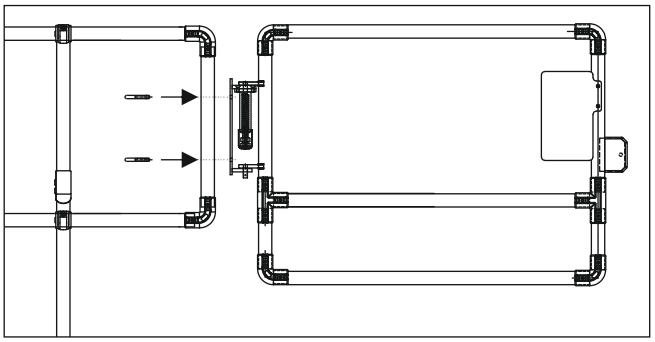


Step 1 – Preparation

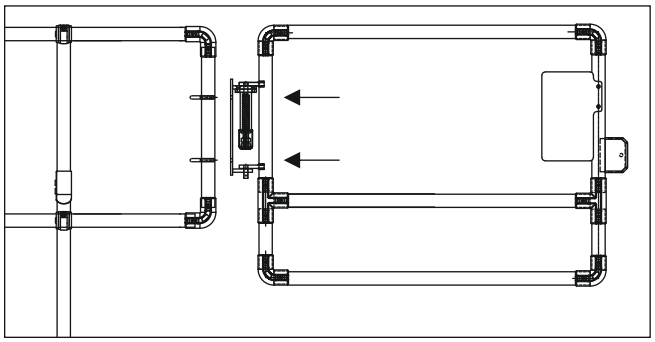
- Confirm the opening width where the gate will be installed.
- The KGate is adjustable to suit openings between 600 mm – 1000 mm (check product label).
- Verify that both gate mounting posts are vertical and securely fixed.
- Ensure the mounting surface is free from burrs, debris, or coatings that could interfere with clamp fitment.
- Lay out all components and hardware near the installation point.

Step 2, 3 & 4 – Determine Gate Orientation and Mounting

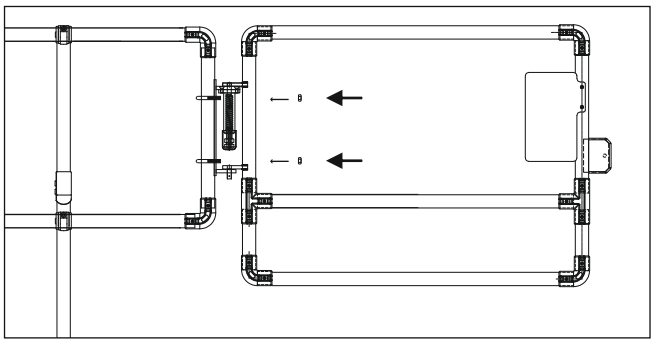
- Identify whether the gate will swing left-hand or right-hand.
- The gate must always close toward the protected area (away from the fall hazard).
- Adjust the hinge assembly orientation by inverting the hinge bracket if required.
- Confirm the spring tension direction matches the chosen swing direction.
- Fit the gate to the required access point, ensuring the fixing plate is aligned on the internal face of the opening.
- Ensure the gate rails line up with the top and mid-rails of the guardrail system.
- Select the correct U-bolts, place them around the support leg or structure, and feed them through the top holes of the fixing plate.
- Secure the U-bolts, washers, and nuts, and tighten to 25 Nm.



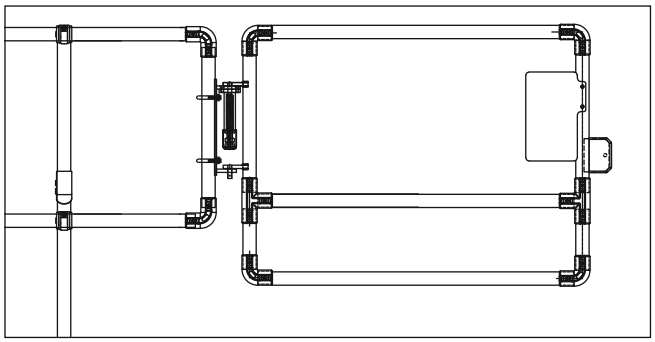
Step-1



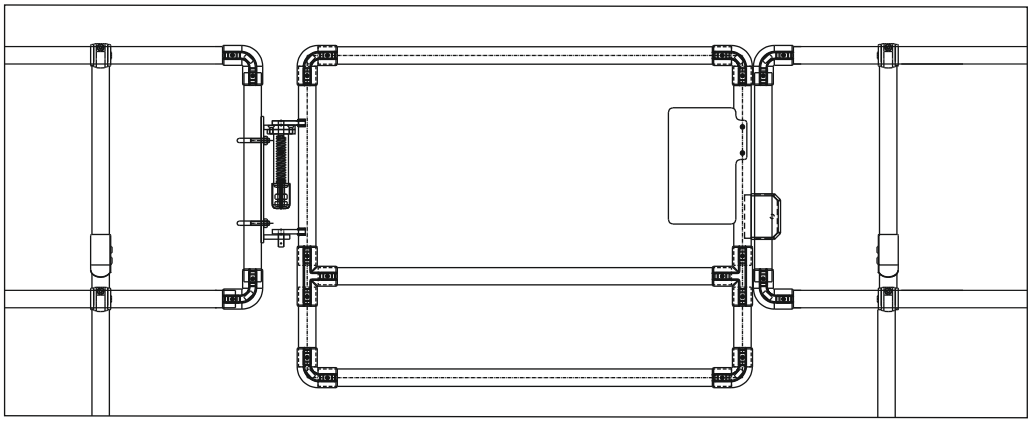
Step-2



Step-3



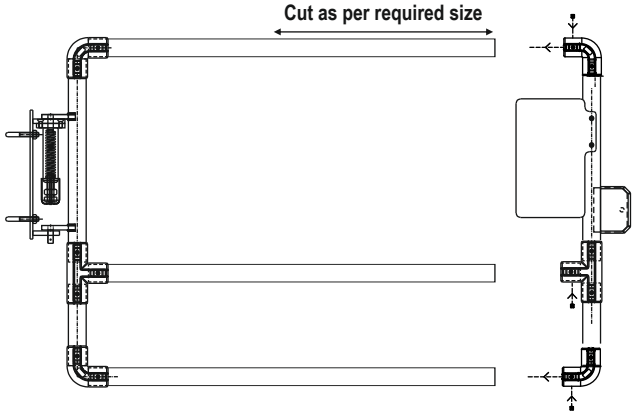
Step-4



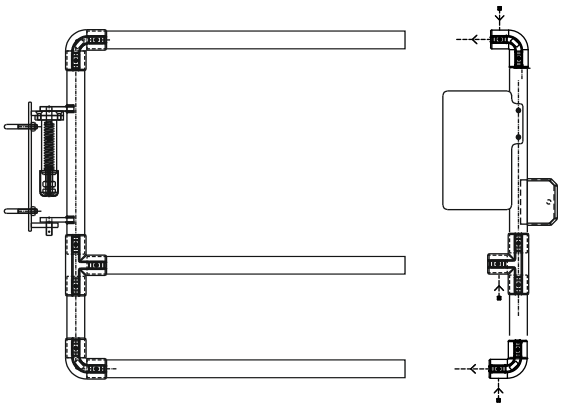
Adjusting the gate to fit the opening

Step 1– Adjusting the Gate to Fit the Opening (if required)

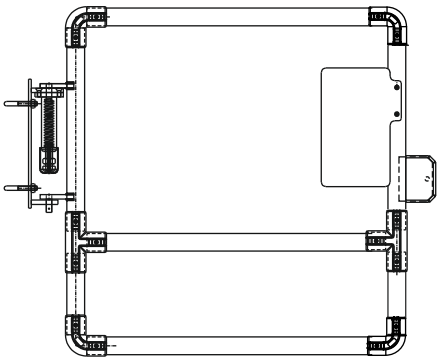
- Place a straight edge or magnetic level to mark the cutting point where the outside edge of the vertical tube meets the supporting structure (do not cut at the mark).
- Loosen the top and bottom hinge clamp grub screws using a hex head socket to detach the gate tube.
- Measure and mark the cut lines on both the top and bottom tubes.
- Cut with a drop saw or similar tool.
- After cutting, apply corrosion protection to all cut ends — see Material-Specific Protection Note below.



Step - 1



Step - 2



Step - 3

Step 2

- Refit the gate tubes into the hinge castings, ensuring the striking plate is on the correct side of the structure.
- Use a spirit level to ensure the gate is level.
- Tighten the hinge clamp grub screws using a hex socket and torque to 39 Nm.
- Attach the mid-rail, ensuring the gap between the top and mid-rail is no more than 470 mm.
- Adjust the hinge spring tension so the gate closes fully and automatically.
- Perform a final check to confirm the gate closes smoothly and with correct force and alignment.

Material-Specific Protection – Cut Ends

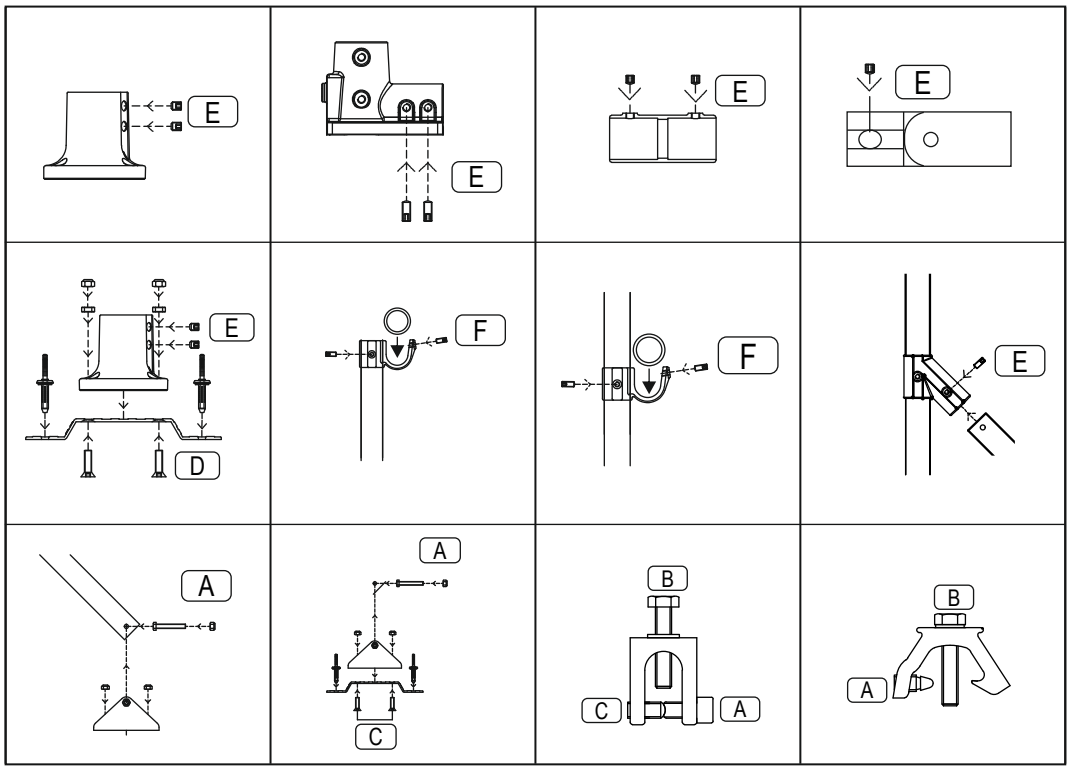
- Galvanized steel gates: Apply Galvanised zinc-rich spray to all cut ends to prevent rust.
- Aluminium gates: Apply a clear etch primer or aluminium protection coating to all cut ends to prevent oxidation and maintain appearance.
- Allow coatings to fully cure before reassembly or exposure to weather.

Final Inspection Checklist

- Gate rails align with the guardrail system top and mid rails.
- All U-bolts and grub screws torqued correctly (25 Nm and 39 Nm).
- Hinge tension adjusted for smooth, automatic closure.
- No sharp edges or uncoated cut ends visible.
- Gate swings freely and closes toward the protected area.
- All components inspected and signed off in QA log.

Torque Settings Chart

Torque Settings Chart			
Fastener	**Torque (NM)**	**Fastener**	**Torque (NM)**
A	15	D	18
B	17	E	14
C	36	F	10

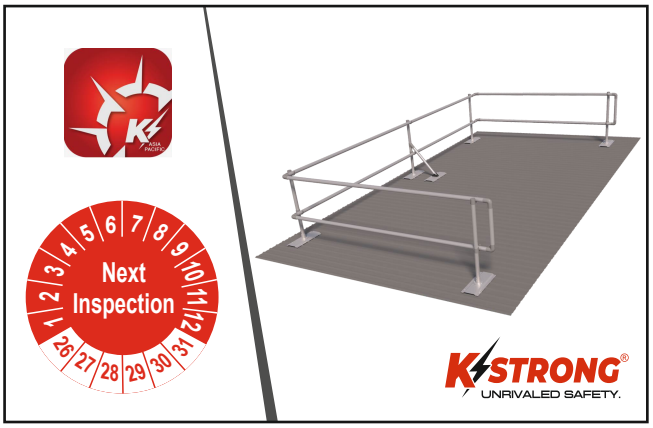


Identification Tag: AFF115100GR

The Inspection plate is installed on the guardrail or KGate for identification, traceability and maintenance of inspection records. At time of installation the relevant details are recorded on the ID Tag. The next inspection dates are also recorded on the month and year on the back of the ID plate. The label is provided with a protective aluminum frame with a poly carbonate sheet for UV protection. The label is equipped with a dynamic QR code and an RFID tag that are linked to the Compass inspection software.

KSTRONG® UNRIVALED SAFETY.

KStrong Guardrail			
AFG2000	EN13374:2013 + A1:2018 Class A and EN ISO 14122-3:2016		
Date of Installation		QR CODE	with NFC•RFID TAG•Iphone 12 or Later•Android RFID
Length of Guardrail			
No. of Bends			
UID			
customercare@kstrongasia.com			www.kstrong.com/asia



Pre-Use Checks and Precautions

Before each use, it is essential that the guardrail system is inspected to ensure that it remains safe, stable, and compliant with its intended design. These checks must be carried out by a competent person who has received appropriate training in the inspection and use of fall protection systems.

Pre Use Checks- Before accessing or working near the guardrail system, verify the following:

General Condition

- Ensure all rails, posts, and components are present, correctly installed and free from deformation, cracks, or bending.
- Confirm that the Guardrail has not been subjected to impact, excessive loading or misuse.

Fixings and Connections

- Check that all bolts, nuts and fasteners are tight and secure.
- Verify that welds, clamps or anchor points show no signs of movement, corrosion or fatigue.

Structural Integrity

- Inspect base plates, stanchions and connection points for signs of wear, looseness or damage.
- Confirm that the system remains rigid and does not move under light manual pressure.

Surface and Environment

- Ensure guardrails, walkways, platforms and surrounding areas are clean, dry and free from oil, grease, or debris.
- Check for any structural or environmental changes (e.g., roof repairs, corrosion or construction) that may have affected the installation.

Corrosion and Coating

- Inspect for rust, pitting or deterioration of protective coatings that could compromise long-term durability.

Compliance

- Confirm that all warning labels, identification tags and manufacturer markings are legible and intact.
- Ensure that the guardrail configuration matches the approved design drawings or layout.

Precautions - When using or working around the Guardrail System:

- Do not modify or remove any part of the system without authorization from a qualified engineer or manufacturer representative.
- Never attach lifelines, ropes, or fall arrest equipment to a guardrail unless it has been specifically designed and certified for that purpose.
- Avoid excessive loading—do not lean, sit or place heavy materials on the rails.
- Maintain clear access around the system; avoid stacking materials or equipment against the guardrail.
- Report any damage or irregularity immediately and remove the system from service until inspected and approved for reuse.
- Hazards existing in immediate environment may require additional precautions to limit the possibility of injury to the user or damage to the equipment.
- Hazards may include but are not limited to, extreme temperatures, caustic chemicals, corrosive environments, high voltage power lines, explosive or toxic gases, moving machinery, sharp edges, high velocity winds, etc.
- Do not expose the equipment to any hazard which it is not designed to withstand. Consult the manufacturer if in doubt.
- Only trained personnel should perform installation, inspection and maintenance.

Rescue Plan

It is strongly recommended that a rescue plan and appropriate rescue equipment be in place before using the guardrail system.

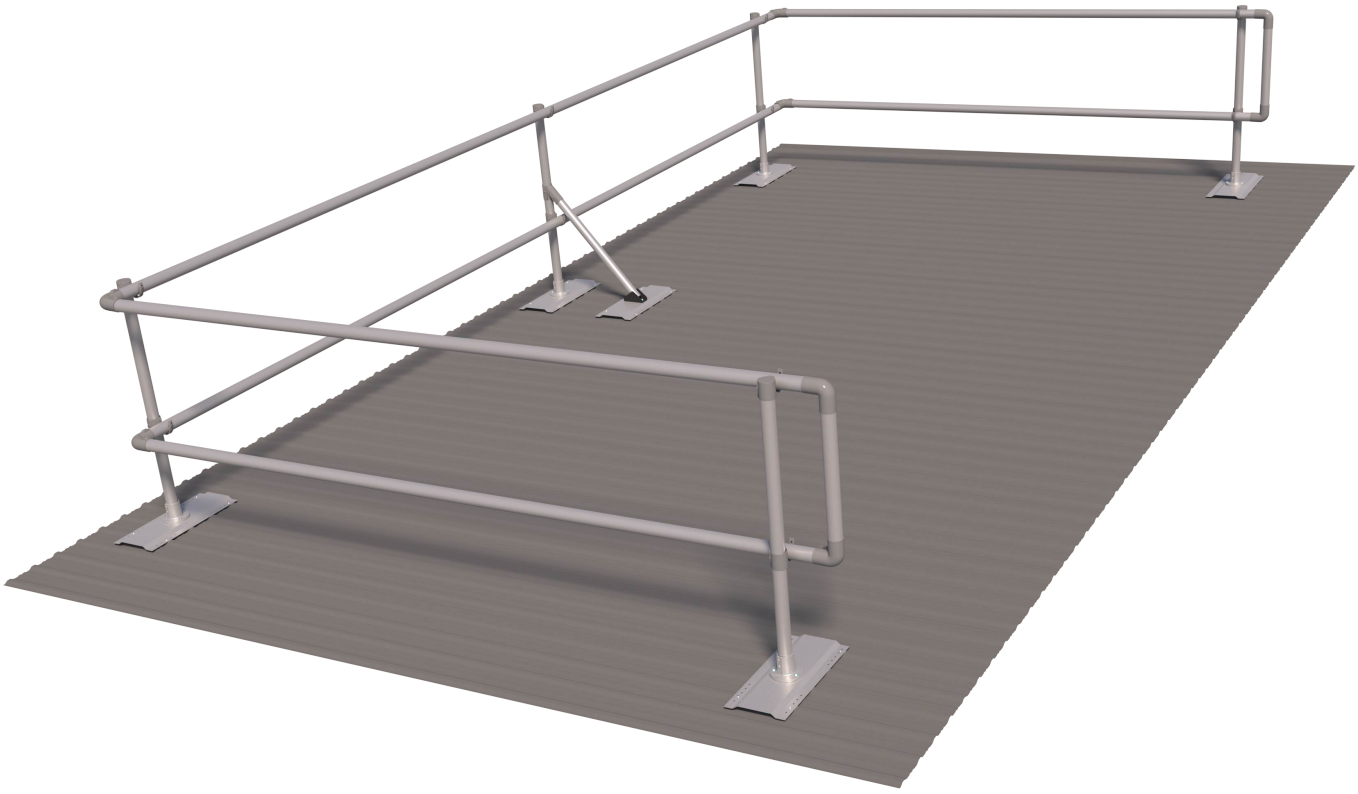
- The rescue plan should be project-specific and tailored to the work environment.
- Workers must be trained in self-rescue procedures or alternative means must be provided to ensure prompt rescue in the event of a fall.
- It is recommended that personnel work in pairs, so that in the event of a fall, a co-worker can assist in initiating the rescue procedure.

Annual Inspection & Revalidation

- The guardrail system shall be inspected at least once every 12 months, or more frequently where required by the risk assessment, environmental conditions, national regulations or the manufacturer's instructions. Periodic inspections shall be carried out by a competent person and shall include verification of the rails, posts, joints, fixings, clamps, base plates, toe boards, gates, counterweights, supporting structure, corrosion condition, product identification and overall system stability. All inspection findings, repairs and the next inspection due date shall be recorded.
- Any personal protective equipment used during installation, inspection or maintenance shall be inspected and periodically examined in accordance with EN 365 and the relevant PPE manufacturer's instructions.
- The KStrong inspection team is fully trained and authorized to perform annual inspections and issue certificates of compliance at a nominal cost.
- Clients can access real-time data and verify the inspection status of any installed lifeline system, anywhere in the world, through the KStrong database.

Environment

To support environmental sustainability, KStrong follows a 100% paperless documentation process. Unless specifically requested by the client, reports and documentation are not printed and are instead provided digitally. This approach helps reduce paper consumption and supports environmentally responsible operations.



Inspection Use and Maintenance

Inspection, Maintenance and Revalidation.

The KStrong Guardrail System shall be inspected by a competent person at intervals not exceeding 12 months, or more frequently where required by the operating environment, risk assessment, manufacturer's instructions, or national regulations. All inspection findings shall be recorded. Any personal protective equipment (PPE) used during the installation, inspection, or maintenance of the guardrail system shall be inspected and periodically examined in accordance with Regulation (EU) 2016/425, EN 365, and the relevant PPE manufacturer's instructions.

COMPASS

KStrong COMPASS inspection software is a web-based system used to record, manage, and track inspection and compliance data for fall protection systems and PPE. It stores equipment details and inspection records for a minimum of 20 years, provides automated inspection due notifications, and allows authorised users to view real-time equipment status and compliance documentation through a secure interface.

- Cloud based online as well as offline software
- Captures geo coordinates where the system is installed
- RFID / Bar code compliant
- Generates report in real time
- Reminds user of items due for inspection
- Captures images of components
- User customizable
- Can be integrated to client software
- Reports can be shared with multiple recipients in real time

Infrastructure:

- Good quality equipment complying with international standards
- 100% backward integrated manufacturing
- Qualified Engineering Team
- Sophisticated test equipment
- Precise engineering software to understand the client requirement to provide a safe & optimum solution
- Technical marketing team capable of understanding the client requirement & present the solution using engineering drawings (Auto CAD) & calculations
- Force predictions on the system in an event of a fall and a testing facility to validate the force calculations

Warranty

All KStrong products are manufactured under strict quality control and tested in accordance with relevant international standards to ensure reliability, durability, and user safety.

KStrong warrants that its products are free from manufacturing defects in material and workmanship for a period of two (2) years from the date of purchase, unless otherwise specified. This warranty applies under normal conditions of use, storage, and maintenance as described in the User Instruction Manual (UIM).

Warranty Conditions - This warranty is valid only when:

- The product has been used strictly in accordance with manufacturer guidelines and safety instructions.
- The product has been installed, maintained, and inspected by trained and competent personnel.
- The product has not been altered, modified, or repaired by any unauthorized party.
- The product has not been exposed to misuse, negligence, or abnormal conditions (e.g., chemical contamination, fire, impact, or excessive loading).
- For systems installed in environments subject to acid condensation, acidic vapors, chemical emissions, corrosive substances or elevated temperatures, the monthly inspection and cleaning requirements specified in this UIM have been completed and documented.
- The product is registered with KStrong at the time of purchase or installation, where applicable.

Exclusions - This warranty does not cover:

- Abnormal wear and tear resulting from irregular use.
- Damage due to improper installation, storage, or maintenance.
- Products that have been subjected to a fall arrest or load event.
- Unauthorized modifications or repairs.
- Damage, corrosion, deterioration, or system failure resulting from exposure to corrosive environments where the required monthly inspection, cleaning, and maintenance activities have not been performed and documented.
- Consequential or incidental damages arising from product failure.

Once a product has been involved in a fall or impact, it must be removed from service and inspected by an authorized KStrong representative before any decision regarding reuse or replacement is made.

Warranty Claims - To make a warranty claim:

- The client must notify KStrong or the authorized distributor in writing, providing full details of the issue, including proof of purchase, serial number, and system identification.
- The product must be returned to KStrong or its designated service center for inspection and evaluation.
- If the defect is confirmed to be due to manufacturing defects, KStrong will, at its sole discretion, repair or replace the product free of charge.

KStrong reserves the right to determine the validity of all warranty claims and its decision shall be considered final and binding.

Disclaimer

This warranty is in addition to, and does not affect, the consumer's statutory rights under applicable local laws.

KStrong's liability under this warranty is limited strictly to the repair or replacement of the defective product and does not extend to any indirect, incidental, or consequential damages.

Recommended PPE

While working on a roof the user can select from a range of PPE to work safely with either lanyards, rope lines or SRL's in conjunction with a full body harness.

Energy Absorbing Webbing Lanyard
AFL408131

Roofers Kit
AFK110009

Twin Micron
AFS550102D

Full Body Roofers Harness
AFH300203

Tools required

The installer must ensure all required tools and personal protective equipment are available and in good working condition prior to installation. Only suitable and approved tools are to be used to ensure the guardrail system is installed correctly, safely, and in accordance with KStrong instructions and applicable safety standards.

SPIRIT LEVEL

TAPE MEASURE

SOCKET SET

CHALK LINE

LASER TOOL

DRILL AND ALLEN KEY SET

HAMMER

TORQUE WRENCH

SAW

CORDLESS DRILL

HAMMER DRILL

IMPACT DRIVER

RIVET GUN

Inspection Log

LIFESPAN: The estimated product Lifespan of this product is 10 years from the date of manufacturing. The following factors can reduce the Lifespan of the product : intense use, contact with chemical substances, especially aggressive environment, extreme temperature exposure, UV exposure, abrasion, cuts, violent impacts, bad use or maintenance.

DISCLAIMER: Prior to use, the end user must read and understand the manufacturer's instructions supplied with this product at the time of shipment and seek training from their employer's trained personnel on its proper use. Users are required to complete and record the pre-use inspection as outlined in this UIM. Failure to follow these inspection and usage requirements significantly increases the user's liability exposure, as improper or undocumented use may not be supported during an incident investigation and could affect warranty or service outcomes. The manufacturer is not liable or responsible for any loss, damage or injury caused or incurred by any person due to improper usage or installation of this product.

EQUIPMENT RECORD		
Product		
Model & type/Identification	Trade Name	Identification number
Manufacturer	Address	Tel, email into use
Year of manufacture	Purchase Date	Date first put into use
Other relevant information (eg. document number)		

PERIODIC EXAMINATION AND REPAIR HISTORY				
Date	Reason for entry (periodic examination or repair)	Defects noted, repairs carried out and other relevant information	Name and signature of competent person	Periodic examination next due date

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*Updates to the UIM are part of our regular revision cycle to keep the manual current and aligned with evolving best practices. While the UIM has always been compliant with the equipment's intended design and safety requirements, periodic updates are important to ensure continued clarity, accuracy, and optimal user guidance.

KSTRONG®
UNRIVALED SAFETY.

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KS GROUP

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