Kee® Gate

RELIABLE SAFE ACCESS

Kee Gate Operation & Maintenance Manual





Kee Gate System Overview







KEE SAFETY'S SAFETY GATES

KEE GATE is a complete range of safety gates designed specifically to provide permanent hazard protection for internal or external applications.

KEE GATE can provide permanent protection for any openings, ladder/stair access points, roof hatches and restricted areas, where regular access for maintenance & inspection is required. The gate has been specifically designed to provide a "retro-fit" solution to existing fixed structures where opening protection is required.

APPLICATION

KEE GATE has been designed to be fully adjustable and can accommodate openings up to 1m 30" – 39" (USA version).

DURABILITY

KEE GATE is available in a range of high quality finishes. Galvanised: components are supplied with a galvanised finish to BS EN ISO 1461 and ASTM A53: Hot Dip Galvanised Coatings Specification and Testing Methods, giving an average coating of between 55-100 microns.

COMPONENT BASED SYSTEMS

All products consist of high quality tubing that seamlessly compliments Kee Safety's safety portfolio. KEE GATE mounts easily to all variants of the KEE KLAMP & KEEGUARD systems as Mobile & Static Access Platforms.

VERSATILE SYSTEMS

The KEE GATE range has been specially designed with U-bolt clamps allowing the products to be mounted to the supporting structure/post/stringer. This permits connection around any flat, square or tubular stringer from 33.7 – 48.3mm (1" – 1.5").

Kee Gate System Overview







TESTING & CERTIFICATION

Tested in accordance with the following (See Specification Section for full details) :-

EN 13374 Class A.
EN ISO 14122 Part 3 & Part 4
OSHA
ANSI
Ontario Building Code, NBC and British Columbia Building Code
Canadian Standards Association
Canada Occupational Health and Safety

LIFE CYCLE TESTING - BS 6375-2:2009 Clause 6.5 - Opening and closing of Gate through 90 degrees.

SALT SPRAY TESTING - ASTM B117 - 11 - 55 over 200 hours to assess performance of coating to resist corrosion.

OFFICIAL DOCUMENTATION

All Systems comply with the following:-
Work at Height Regulations.
HSG 33 “Health & Safety in Roof work”
HSE Construction Sheet No. 21 “Working on flat roofs protection against falls.”
European Union Directives together with requirements of CDM Regulations. USA & Canada.

AESTHETICS

The smooth lines of the standard galvanised finish can be further enhanced by the application of powder coating to EN 13438.
USA-AAMA 2603-2605.

SYSTEMS DISTRIBUTORS

KEE GATE is available as a supply and installation service or component supply only. Products are available from Kee Safety directly or one of its licensed distributors.

Kee Gate Compliance

PRODUCT SPECIFICATION – EUROPEAN – USA - CANADIAN

FEATURES:- Spring Loaded, self-closing safety gate.

GENERAL

KEE GATE systems require physical fixing to the buildings structure.
The complete system's design, manufacture, testing and installation have been externally assessed and tested to European – USA – Canadian Standards.

MATERIALS

European

Steel tubing to EN 10255. 33.7mm diameter tube x 3.2mm wall thickness.
All steel components galvanised to BS EN ISO 1461.
All fixings are hot dipped galvanised to BS EN ISO 1461.
All cast clamps used to join the guardrail are galvanised malleable cast iron produced to BS EN 1562 : founding malleable cast iron.
Where tubing is cut on site zinc rich paint is applied to the cut end of the tube.
Powder Coating to EN 13438.

USA & Canada

All steel components galvanised steel to ASTM A53.
All fixings are hot dipped galvanised to ASTM A53.
Powder Coating to USA-AAMA 2603-2605.

LAYOUT EUROPE & CANADA

Recommended installed height of KEE GATE is 1.1m in Europe and Canada depending on the structure it is fixed to and National Regulations . Standard gate width 1m. Internal gap between top and bottom guardrail 466mm. Guardrail centre to centre 500mm

LAYOUT USA

Recommended installed height of KEE GATE is 42" in the USA depending on the structure it is fixed to and National Regulations.
Standard gate widths 24", 30" & 36" (each gate adjustable up to an additional 3")
Internal gap between top and bottom guardrail 18.35".
Guardrail centre to centre 19.69".

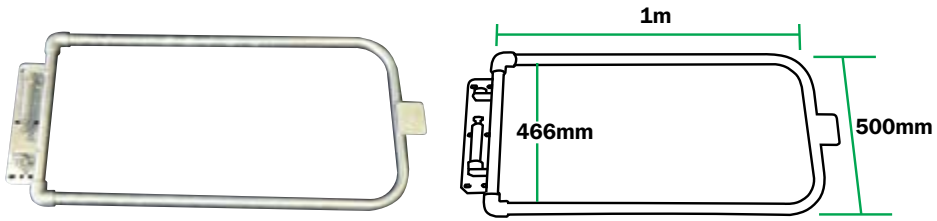
TESTING

EN 13374 Class A.
EN ISO 14122 Part 3 & Part 4
OSHA – 200 lb applied to the top rail of the gate and 150 lb on the mid-rail of the gate
ANSI – The gate must comply with the same loading requirements as the structure to which it is attached.
IBC – designed to resist linear load of 50 lb/ft
Ontario Building Code, **NBC and British Columbia Building Code** – "Handrails and any building element that could be used as handrail shall be designed and attached in such a manner to resist, (a) a concentrated load at any point of not less than 0.9 kN (202 lb) and a uniformly distributed load of 0.7 kN/m (48 lb/ft).
OBC and NBC state – "all other guards" – 0.75 kN/m (52 lb/ft) or concentrated load of 1.0 kN (224 lb) applied at any point on top of the guard
Evenly distributed vertical load on top of the guard – 1.5 kN/m (103 lb/ft)
Canadian Standards Association – 0.9 kN (202 lb), 0.7 kN/m (48 lb/ft) – states "Guard - a protective barrier around an opening in a floor or at the open side of stairs, a landing, balcony, mezzanine, gallery, raised walkway or other location; used to prevent accidental falls from one level to another; such a barrier may or may not have openings through it."
Canada Occupational Health and Safety – 890N applied along top rail (200 lb)

LIFE CYCLE TESTING - BS 6375-2:2009 Clause 6.5 - Opening and closing of Gate through 90 degrees.

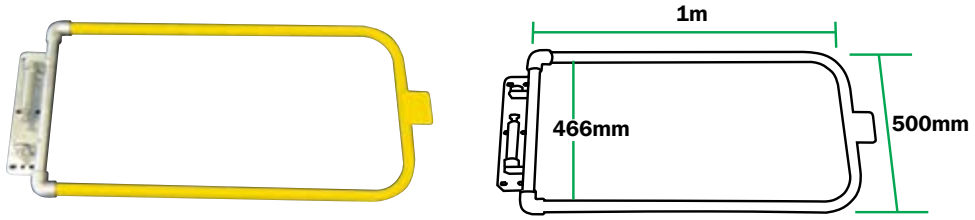
SALT SPRAY TESTING - ASTM B117 - 11 - 55 over 200 hours to assess performance of coating to resist corrosion.

Kee Gate Components



European Gate - Galvanised - SGEU500GV

Spring Loaded, self-closing safety gate. Manufactured from steel to EN 10255. 33.7mm diameter tube x 3.2mm wall thickness to meet requirements of EN 13374 & EN 14122. Complete with fixing pack.
Material : Galvanised steel to BS EN ISO 1461. Net weight : 11kg (24lb 4oz).



European Gate – Powder Coated - SGEU500PC

Spring Loaded, self-closing safety gate. Manufactured from steel to EN 10255 33.7mm diameter tube x 3.2mm wall thickness to meet requirements of EN 13374 & EN 14122. Complete with fixing pack. Powder Coated Finish to EN 13438.
Material : Steel to EN 10255. Net weight : 11kg (24lb 4oz).

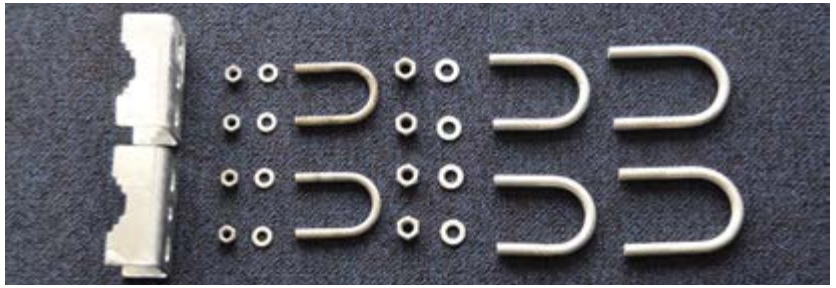


SAFETY GATE EUROPEAN FIXING PACK 1 - SGEUFXPK1

Supplied for the European market to fit posts 33.7mm, 42.4mm and 48.3 mm diameter. Fixing pack contains 3No U Bolts for each size complete with M8 and M10 nuts and washers.
Material : Galvanised steel to BS EN ISO 1461. Net weight : 0.864kg (1lb 14oz).



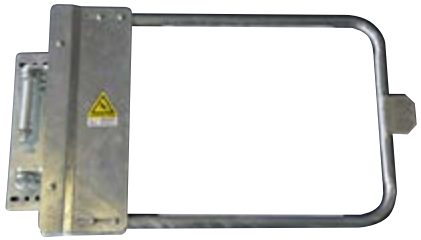


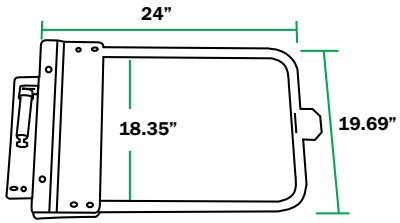


SAFETY GATE NORTH AMERICAN FIXING PACK 1 - SGNAFXPK1

Supplied for the USA market to fit posts 1.0”, 1.25” and 1.5” diameter. Fixing pack contains 3No U Bolts for each size complete with 0.3125” and 0.375” nuts and washers.
Material : Galvanised steel to ASTM A53. Net weight : 1.44kg (3lb 3oz).

Kee Gate Components

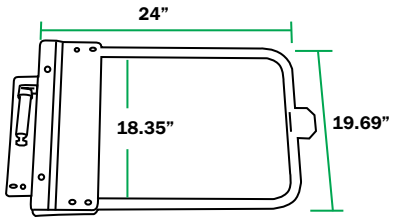




NORTH AMERICAN GATE 24” - GALVANISED - SGNA024GV

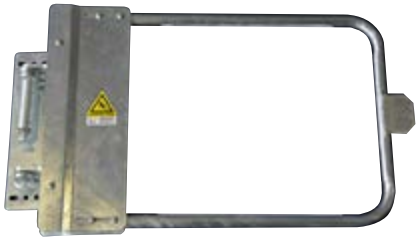
Spring Loaded, self-closing safety gate for North America. Each model can be adjusted on site for an additional 3” without need for cutting or welding. Complete with fixing pack.
Material : Galvanised steel to ASTM A53. Net weight : 17.5kg (38lb 10oz).

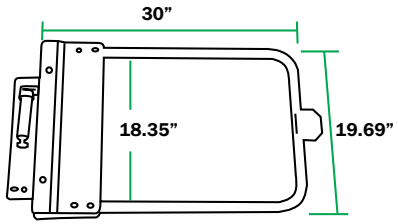




NORTH AMERICAN GATE 24” - POWDER COATED - SGNA024PC

Spring Loaded, self-closing safety gate for North America. Each model can be adjusted on site for an additional 3” without need for cutting or welding. Complete with fixing pack.
Powder Coated USA - AAMA 2603-2605.
Material : Galvanised steel to ASTM A53. Net weight : 17.5kg (38lb 10oz).

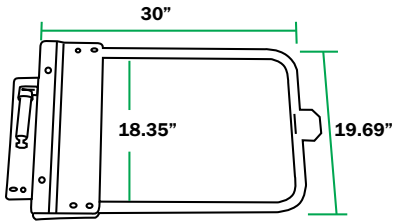




NORTH AMERICAN GATE 30” - GALVANISED - SGNA030GV

Spring Loaded, 30” self-closing safety gate for North America. Each model can be adjusted on site for an additional 3” without need for cutting or welding. Complete with fixing pack.
Material : Galvanised steel to ASTM A53. Net weight : 18.3kg (40lb 5oz).

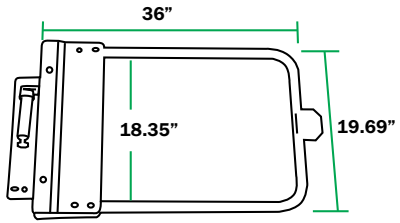




NORTH AMERICAN GATE 30” - POWDER COATED - SGNA030PC

Spring Loaded, self-closing safety gate for North America. Each model can be adjusted on site for an additional 3” without need for cutting or welding. Complete with fixing pack. Powder Coated USA - AAMA 2603-2605.
Material : Galvanised steel to ASTM A53. Net weight : 18.3kg (40lb 5oz).

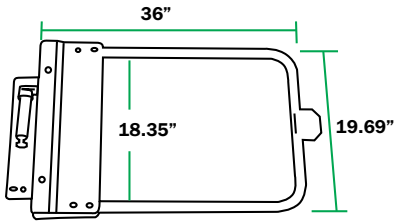




NORTH AMERICAN GATE 36” - GALVANISED - SGNA036GV

Spring Loaded, 30” self-closing safety gate for North America. Each model can be adjusted on site for an additional 3” without need for cutting or welding. Complete with fixing pack.
Material : Galvanised steel to ASTM A53. Net weight : 19kg (41lb 14oz).





NORTH AMERICAN GATE 36” - POWDER COATED - SGNA036PC

Spring Loaded, self-closing safety gate for North America. Each model can be adjusted on site for an additional 3” without need for cutting or welding. Complete with fixing pack. Powder Coated USA - AAMA 2603-2605.
Material : Galvanised steel to ASTM A53. Net weight : 19kg (41lb 14oz).

Mounting and tensioning gate spring

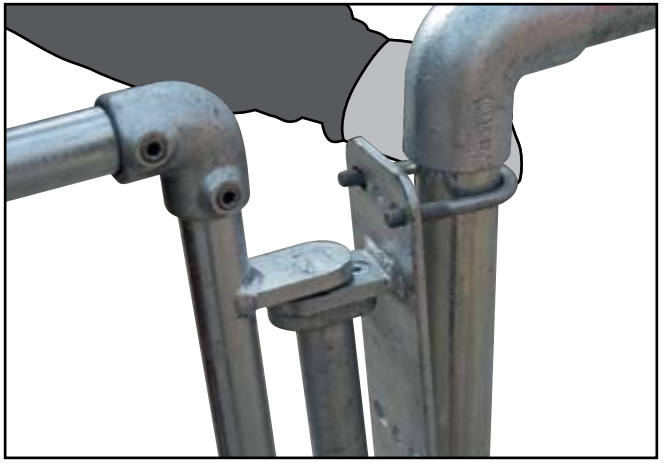
TOOLS REQUIRED

You will need the following in order to install the Kee Gate:

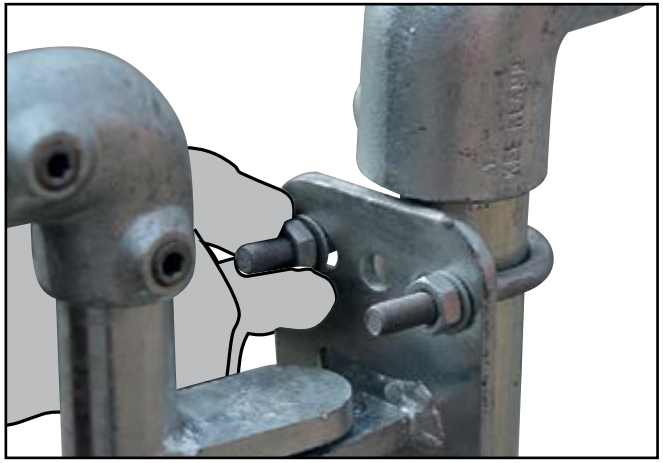
- **Marker Pen**
- **Tape Measure**
- **1No 24mm Ring Spanners**
- **1No 13mm socket**
- **No 17mm socket**
- **1No 24mm socket**
- **¼" Hex Key Socket**
- **Torque Wrench 10- 60 Nm approx**
- **Hacksaw or Similar**
- **Small Magnetic Spirit Level**

Mounting Gate to Upright

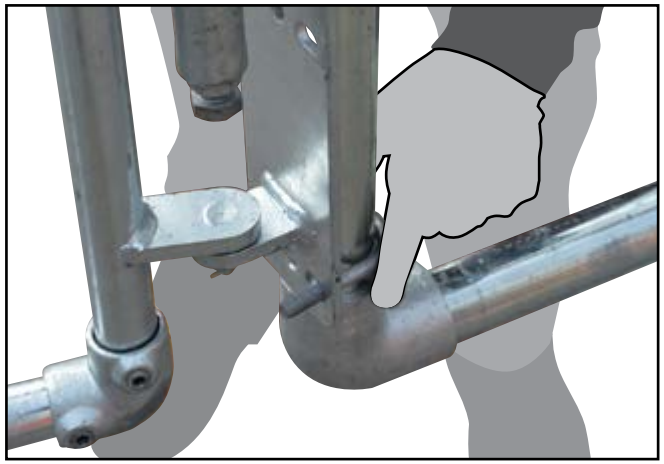
Establish that the gate will close in direction of hazard!! Failure to do so could result in Death or serious injury.



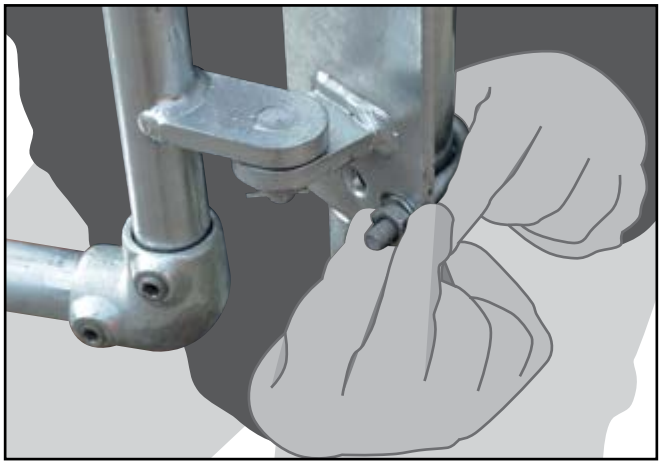
A. Align the fixing plate on internal face of the opening, so that the rails of the Safety Gate match up with the top of the Guard-rail System. Select the correct U Bolt & pass around the support leg/structure and feed through the top holes of the fixing plate.



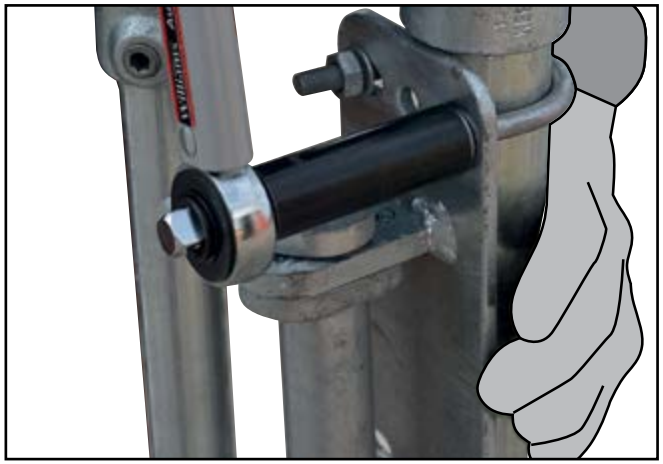
B. Using a M8 or M10 flat washer and nut connect the U bolt to the Support Leg/Structure and tighten.



C. Pass U-Bolt around the support leg/structure and feed through the bottom holes of the fixing plate.

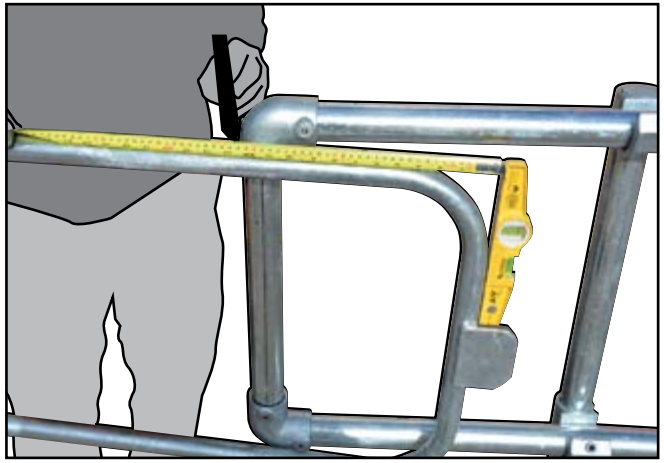


D. Using a M8 or M10 flat washer and nut connect the U bolt to the Support Leg/Structure and tighten.

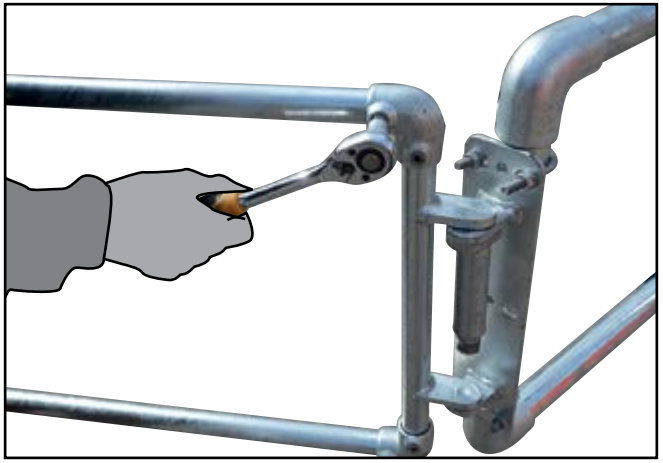


E. Torque all nuts/U Bolts to 25Nm using the 13mm or 17mm socket and torque wrench.

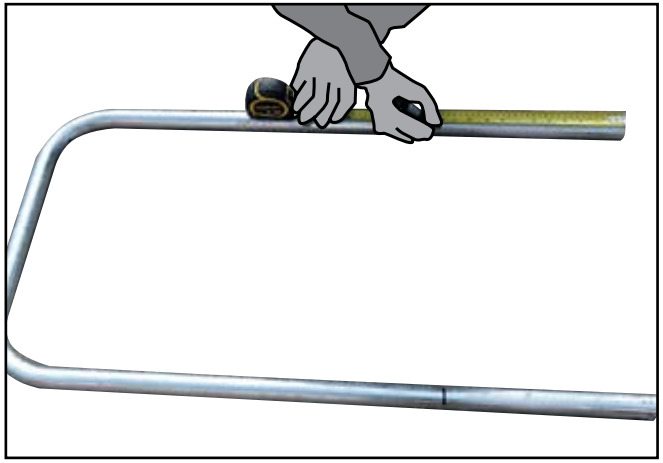
Mounting and tensioning gate spring



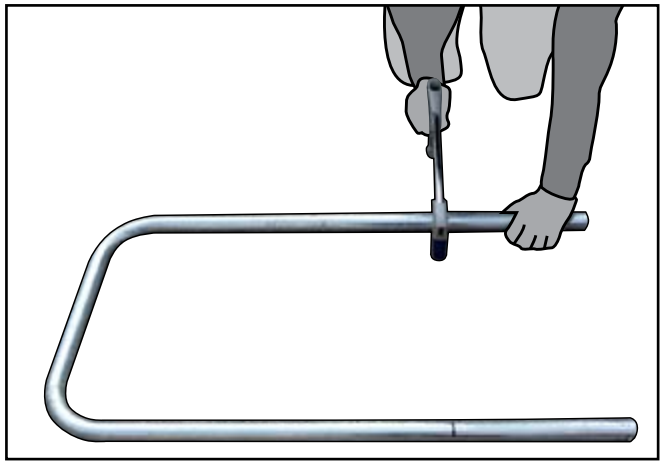
F. To cut the gate to the correct size simply place a straight edge/magnetic level as shown and measure the distance to the point where the outside edge of the vertical tube meets the supporting structure as shown. **(DO NOT CUT AT THIS MARK!)**



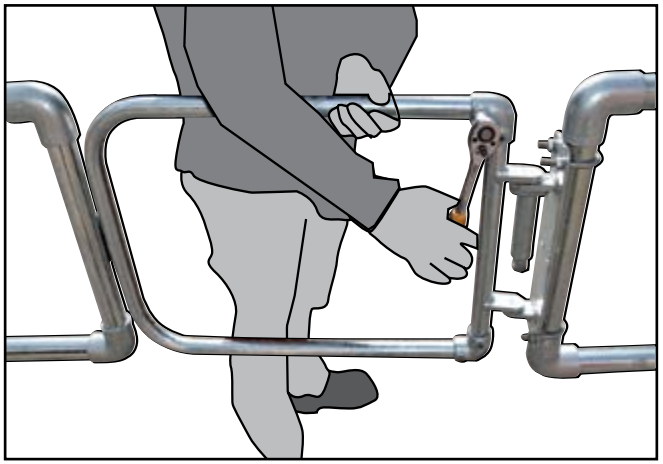
G. Disconnect the tubular gate from the hinge assembly by loosening the top & bottom cast clamp grub screw using a hex head socket as shown.



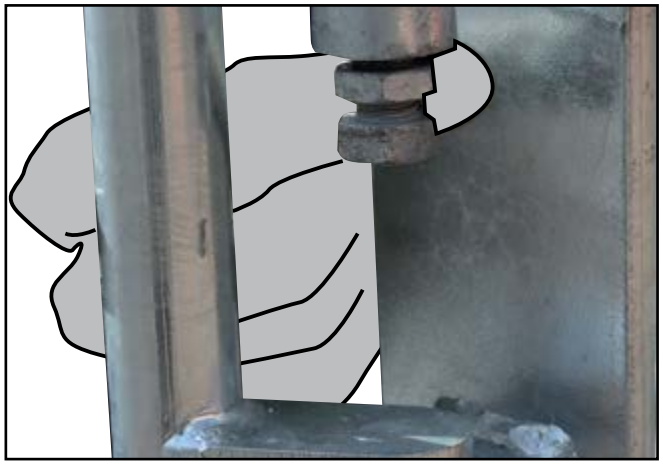
H. Measure the distance recorded in point (f) above and mark the gate top and bottom tubes as shown.



I. Using a hacksaw or similar carefully cut through the top and bottom tubes as shown. For galvanised assemblies, spray with Galvafoid or similar to prevent corrosion.

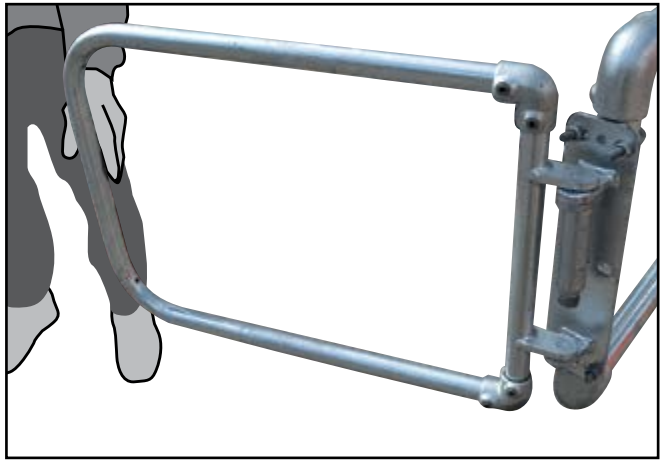


J. Carefully re-position the gate top and bottom tubes into the cast fittings. Ensure the striking plate is on the correct side of the Support Leg/Structure. Use a spirit level, to ensure the gate is level. Tighten the cast fittings grub screws using a hex head socket. Using the torque wrench ensure the castings are torqued to 39Nm.

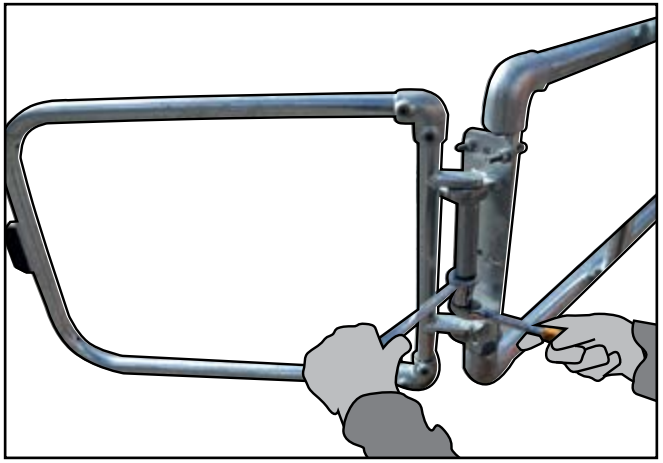


K. To tension the hinge loosen the locking nut as shown.

Mounting and tensioning gate spring

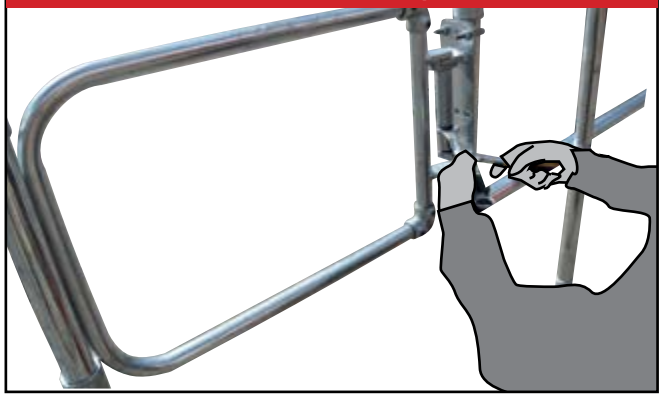


L. Manually open the gate at 45 degrees from its closed position.

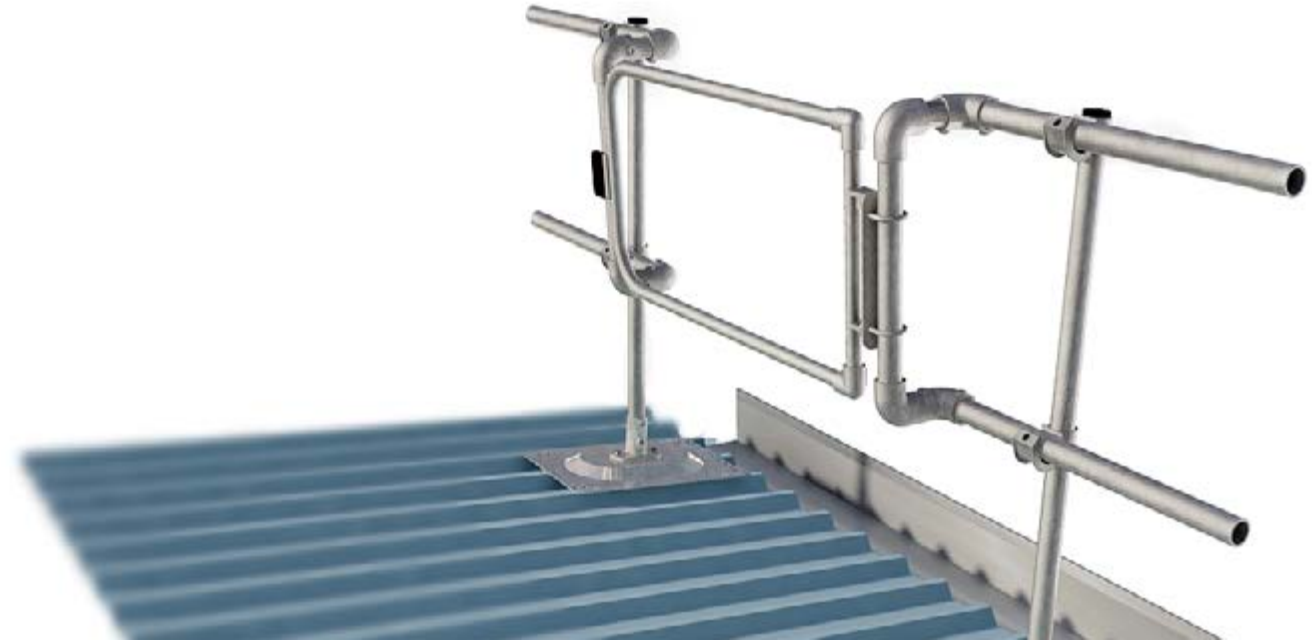


M. Using the 24mm socket & ring spanner start to tighten the bolt until the gate completely closes. (Note:- You may have to hold the socket whilst using the ratchet).

Caution! Over tensioning of the spring assembly will result in failure of the product!!



N. Once the gate is completely closed tighten the locking nut to hold the tension. Caution:- Continue to hold the ratchet firmly and do not release until the lock nut is tightened. Now remove the socket and spanner from the hinge. Repeat as necessary, to ensure that the gate closes sufficiently, once opened and released.



Note:- Installing Kee Gate

When installing Kee Gate on a pitched roof it is essential that the gate is mounted vertically level to the horizontal. This can be accommodated by using standard 90 degree Elbows (15-8) (4No required per gate).

The elbows permit adjustment allowing the Kee Gate to be orientated to the correct angle. If the gate is not set at the correct angle the hinge cannot be tensioned correctly and the gate may not close as required.

Mounting and tensioning gate spring

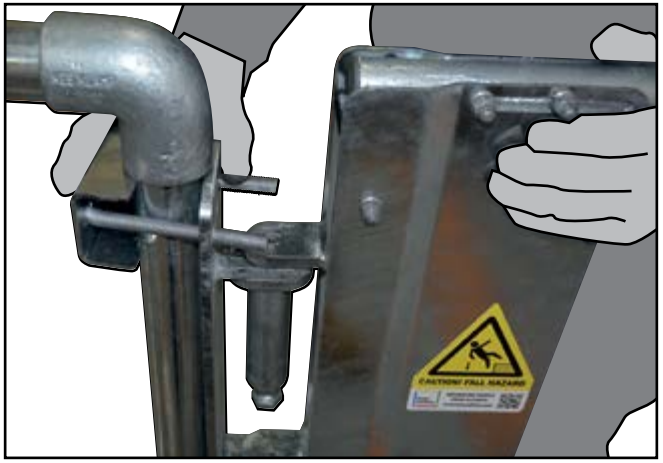
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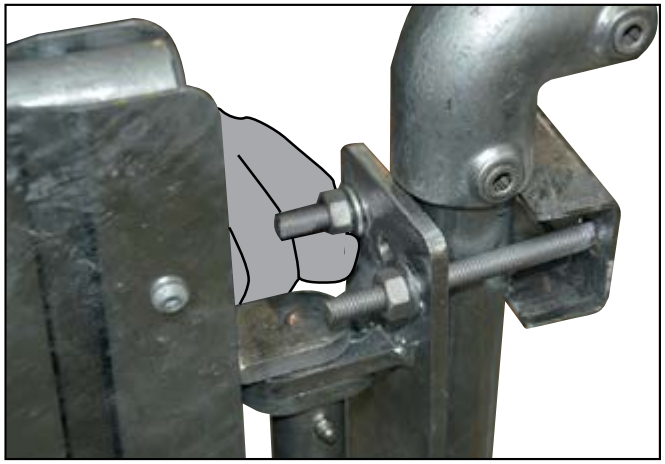
- **Marker Pen**
- **Tape Measure**
- **1No 15/16” Ring Spanners**
- **3/16” Allen Key**
- **1No ½” socket**
- **No 11/16”mm socket**
- **1No 15/16”mm socket**
- **Torque Wrench 10- 60 Nm approx**
- **Small Magnetic Spirit Level**

Mounting Gate to Upright

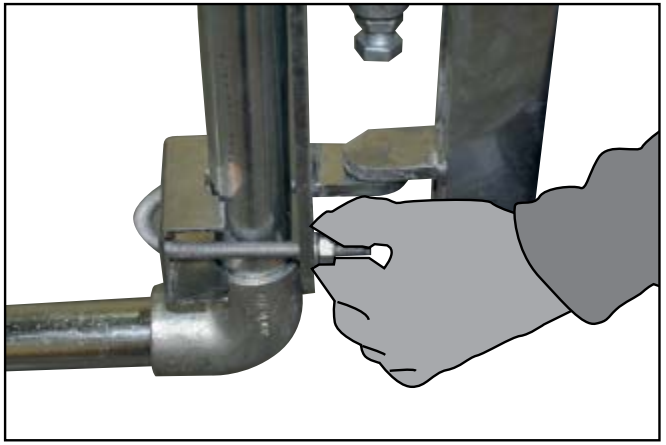
Establish that the gate will close in direction of hazard!! Failure to do so could result in Death or serious injury.



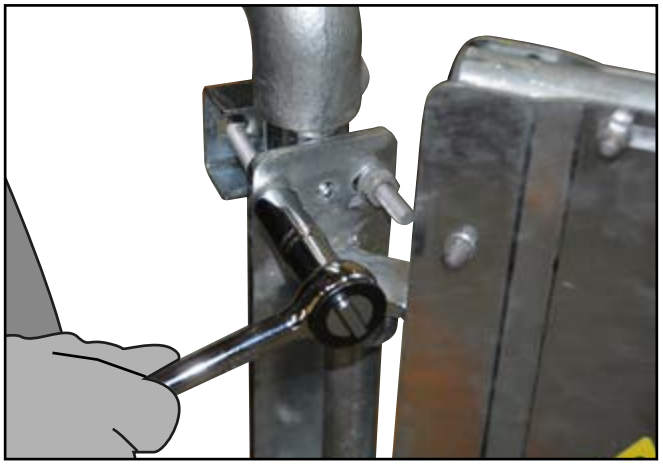
A. Align the fixing plate on internal face of the opening, so that the rails of the Safety Gate match up with the top of the Guardrail System. Select the correct U Bolt & pass it through the Steel Safety Clamp & around the support leg/structure and feed through the top holes of the fixing plate.



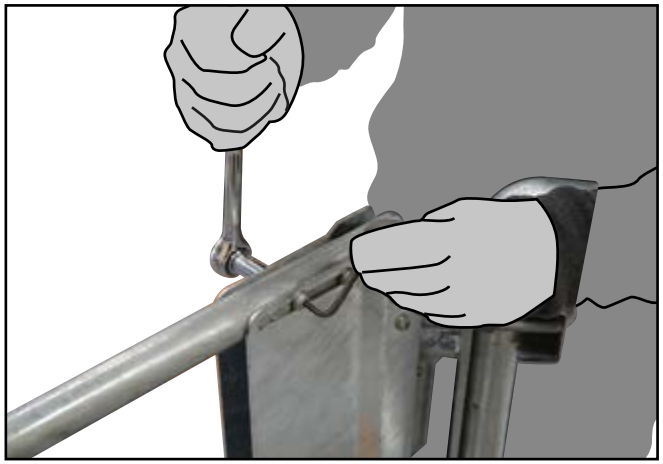
B. Using a 11/16” or ½” flat washer and nut connect the U bolt to the Support Leg/Structure and tighten.



C. Select the correct U Bolt & pass it through the Steel Safety Clamp & around the support leg/structure and feed through the top holes of the fixing plate. Using a ½” or 11/16” flat washer and nut connect the U bolt to the Support Leg/Structure and tighten.

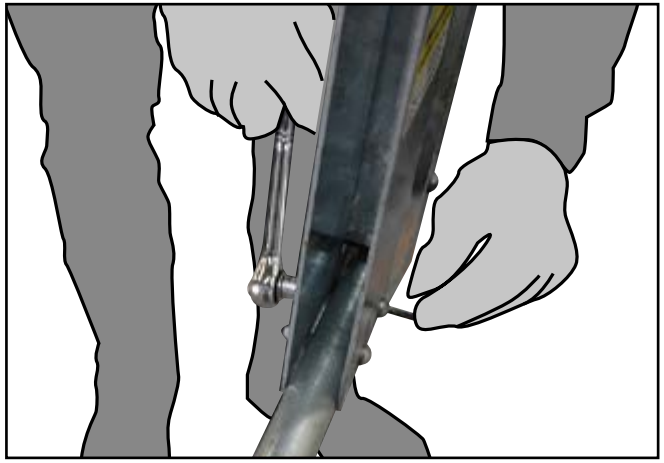


D. Torque all nuts/U Bolts to 25Nm using the 11/16” or ½” socket and torque wrench.

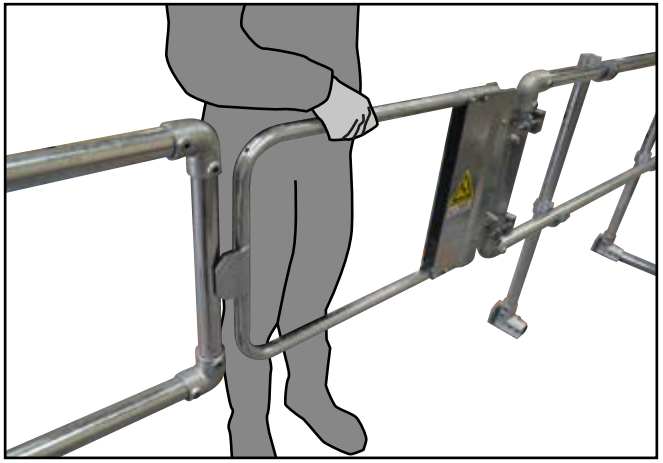


E. To extend the gates width to the required opening simply loosen the hex nuts and bolts on the top guardrail using a 3/16” Allen Key and ½” socket.

Mounting and tensioning gate spring



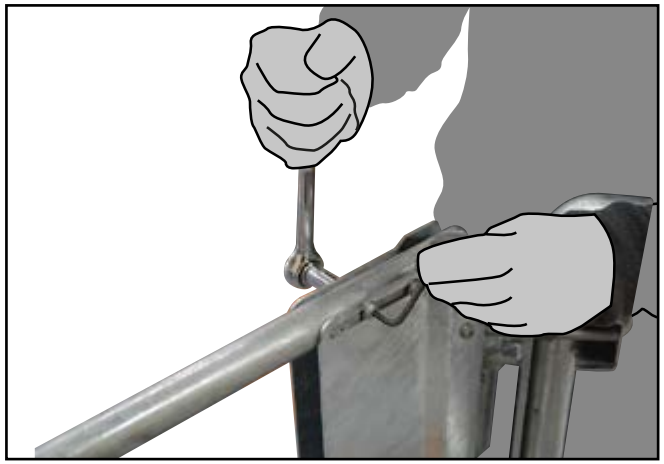
F. To extend the gates width to the required opening simply loosen the hex nuts and bolts on the bottom guardrail using a 3/16” Allen Key and ½” socket.



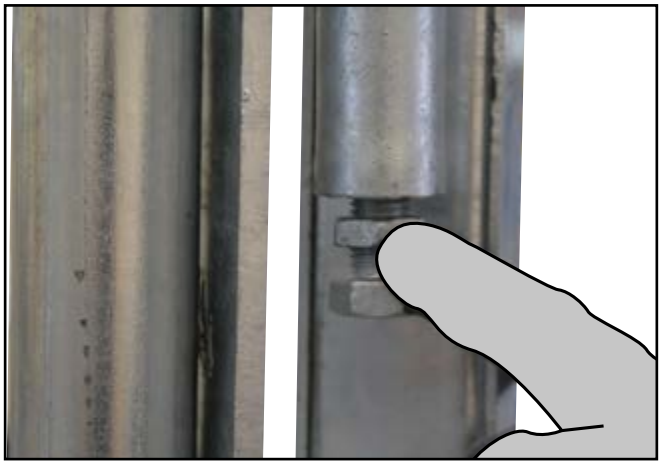
G. Establish the additional distance required so the striking plate strikes the required post.



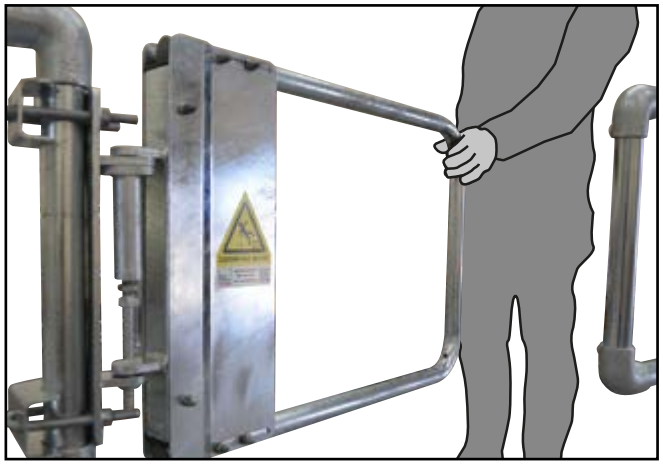
H. Extend the gate by pulling to the required distance.



I. Once the gate is lined and levelled tighten the hex nuts and bolts on the top & bottom guardrails using a 3/16” Allen Key and ½” socket.

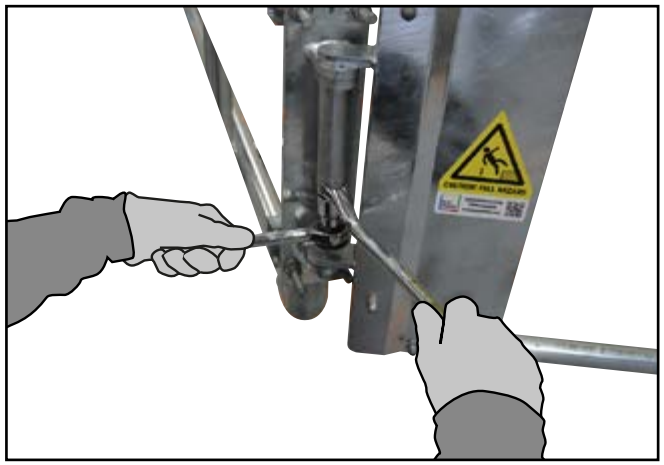


J. To tension the hinge loosen the locking nut as shown.



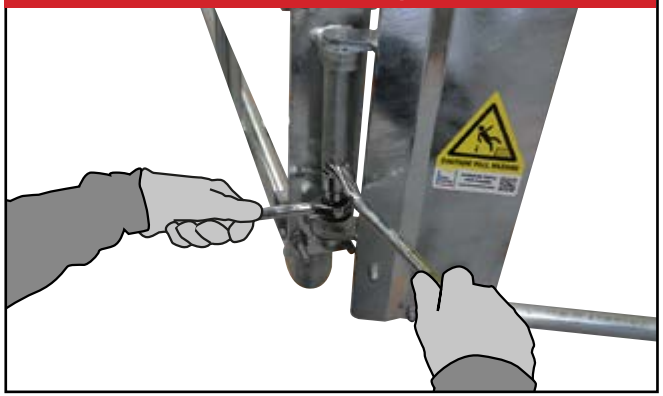
K. Manually open the gate at 45 degrees from its closed position.

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L. Using the 15/16" socket & ring spanner start to tighten the bolt until the gate completely closes. (Note:- You may have to hold the socket whilst using the ratchet).

Caution! Over tensioning of the spring assembly will result in failure of the product!!



M. Once the gate is completely closed tighten the locking nut to hold the tension. Caution:- Continue to hold the ratchet firmly and do not release until the lock nut is tightened. Now remove the socket and spanner from the hinge. Repeat as necessary, to ensure that the gate closes sufficiently, once opened and released.



Note:- Installing Kee Gate

When installing Kee Gate on a pitched roof it is essential that the gate is mounted vertically level to the horizontal. This can be accommodated by using standard 90 degree Elbows (15-8) (4No required per gate).

The elbows permit adjustment allowing the Kee Gate to be orientated to the correct angle. If the gate is not set at the correct angle the hinge cannot be tensioned correctly and the gate may not close as required.

Kee Gate Recertification

Periodic inspections by a competent person are recommended by the manufacturer. In UK/Europe these are required under Regulation 5 of the Workplace (Health, Safety & Welfare) Regulations, the Work at Height Regulations and Provision and Use of Work Equipment Regulations.
The frequency will depend upon the environment, location and usage but should be at least every 12 months.

- Walk and visually inspect the complete installed product in relation to the general client's needs. Establish if any modifications and/or additional products are required to reflect any refurbishment requirements or additional plant & equipment which have been installed and require access.
- Check installation configuration is complete as per the original installation drawing/plan.
- Ensure the product has not been modified or tampered with by unauthorised persons.
- Check the functionality of the product.
- Check the spring is correctly tensioned.
- Check all fixings are in place, greased and sufficiently torque.
- Check the general height and level of the product.
- Any galvanised components showing signs of corrosion should be wire brushed thoroughly and galvanised spray/paint applied as appropriate.
  If rusted significantly, take digital photographs and include these in the inspection report.
- Inspect aluminium/stainless steel and powder coated product surfaces and note any imperfections or general degradation.
- Check fixings to walls/structures including cat ladder clamps are in place, greased and sufficiently torqued.
- Check system plaque position & mark up to reflect date of the next required inspection. Establish if additional plaques are required due to any refurbishment works.







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