eSafety Supplies

HANDRAIL GUIDE

A complete guide to the standard Tubeclamp handrail system.

DISCOVER A BETTER WAY TO CONNECT

We are Australian based company that design, manufacture steel and aluminum tube connectors / fittings. Based in Pemulwuy, or store is open to the public, trades and wholesalers with a wide range of our TubeClamp™ & LiteClamp® tubular steel connectors.

Using a specially engineered grub screw to secure tubes into our fittings, TubeClamp™ fittings have a guarantee tension strength of 5,650N (575kg) (when installed as per recommended guidelines). This mechanism allows DIY enthusiasts and general tradespersons to construct pipe structure without the need of welding. TubeClamp™ & LiteClamp® can be installed anywhere without the need of a hot work permits, confined space, around the home.

Tubeclamp & LiteClamp can be used to build structures either around the home as furniture to outdoor sport frames, or in a retail setting with displays, storage and sign structures or as infrastructure in public as handrail, playground and temporary structure for events / movies and many more, they are built to withstand any weather conditions.

We provide support to help you in design (either technical support or CAD / Technical Information for designer). We also hold large quantity of fittings and can supply to any size of projects. Our products can be easily supply loose or flat pack to easily transport.

Our products are designed for all weather conditions. While tubeclamp products (ductile and malleable cast iron) have galvanise finish and liteclamp products (aluminium cast) have mill finish. Both product ranges could be powder coated onto different colour finish.

It's that easy

So contact us today & discover a better way to connect.

Getting Started

Handrail barriers are structures used to protect people from potential harm. This document goes through all the necessary information regarding standard handrails. Standard handrails shall be designed and built to comply to the latest Australian Standards "AS 1657 - Fixed platforms, walkways, stairways and ladder Design, construction and installation".
Handrail information may also be found in "AS/NZS 1170.1 - Permanent, imposed and other actions".

When getting a quote for a handrail. It's important to know what handrail you're after. Some issues which may need to be discussed include:
What is the handrail for (home backyard, up a driveway. mezzanine, factory, office, etc)?
Does the handrail require disability/assist access?
Is the handrail mounted onto the ground or on a wall?

- If it's on the ground, is the ground gravel, asphalt, wood, concrete, etc?
- If it's on the wall, is the wall brick, concrete, gyprock, wood, etc?

Are there any slopes, ramps, or stairs in the handrail?

- What are the dimensions of these pathways?
- How long is the handrail?
- Is the handrail just a straight run?
- How many corners does the handrail have?
- Does the handrail require any openings?
- If the handrail requires openings, how wide as the openings?
- Does the handrail need any gates?
- How many rails does the handrail require?

This is a very long list of questions which need answering, however, we can provide support and patiently work through all the obstacles with you the ensure that the design of the handrail is 100%.

Disclaimer of Liability

Solid Dynamics Pty Ltd strives to ensure that all information contained within this document is accurate and up-to-date. While a lot of care has been taken when writing this booklet, it should not be the sole bases for building or certifying handrails for public or private use. Competent persons should always be consulted before proceeding with any handrail installation.

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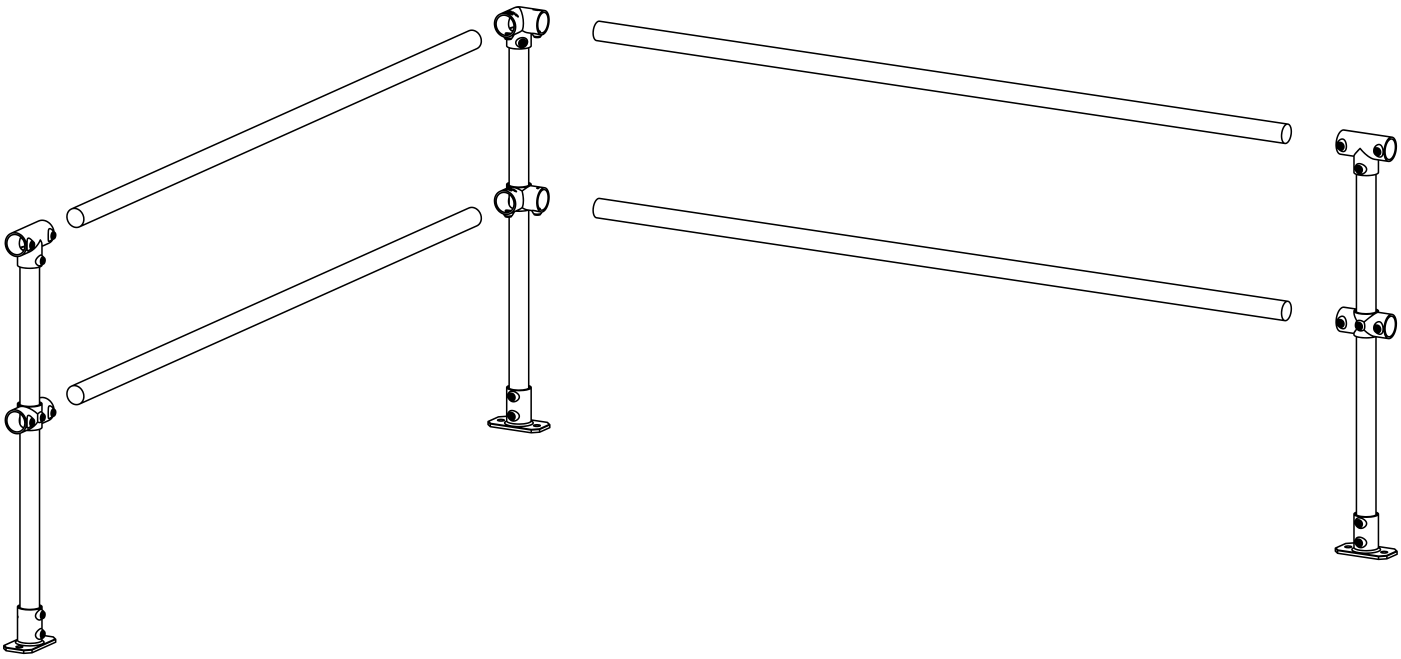

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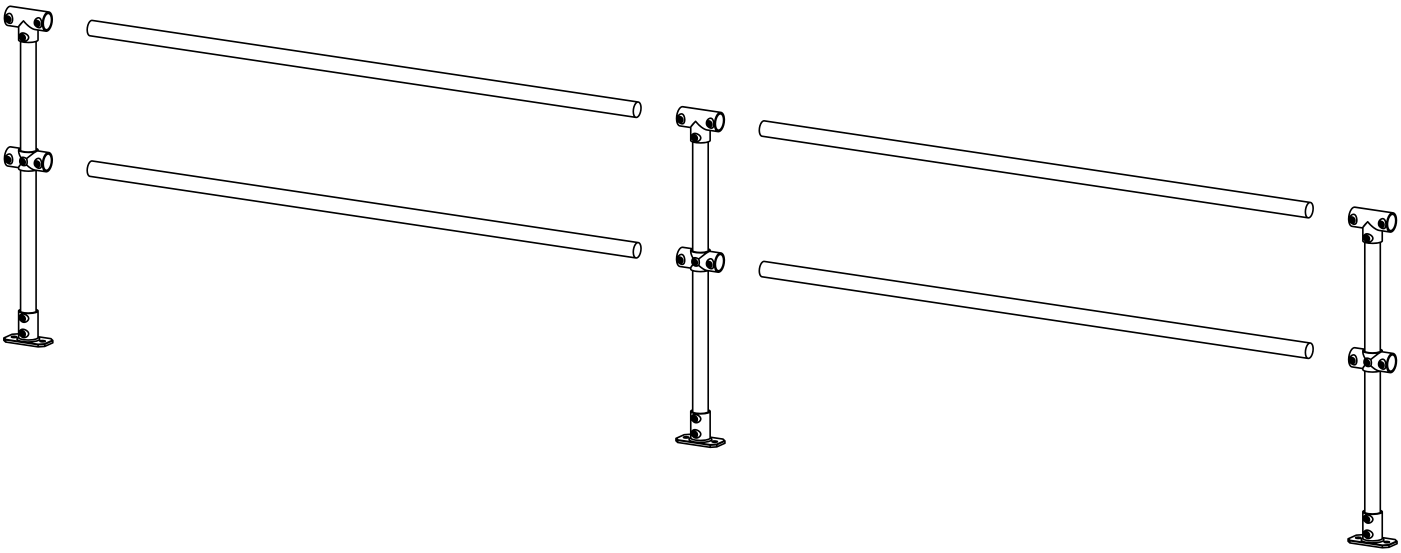


GLOSSARY OF TERMS

Glossary of terms

There are several components which when put together makes up a handrail. It is often easier to use commonly defined terms when discussing handrail designs and installations.
Figure 1 shows an illustration of a standard handrail and what all the parts of the handrail are called.

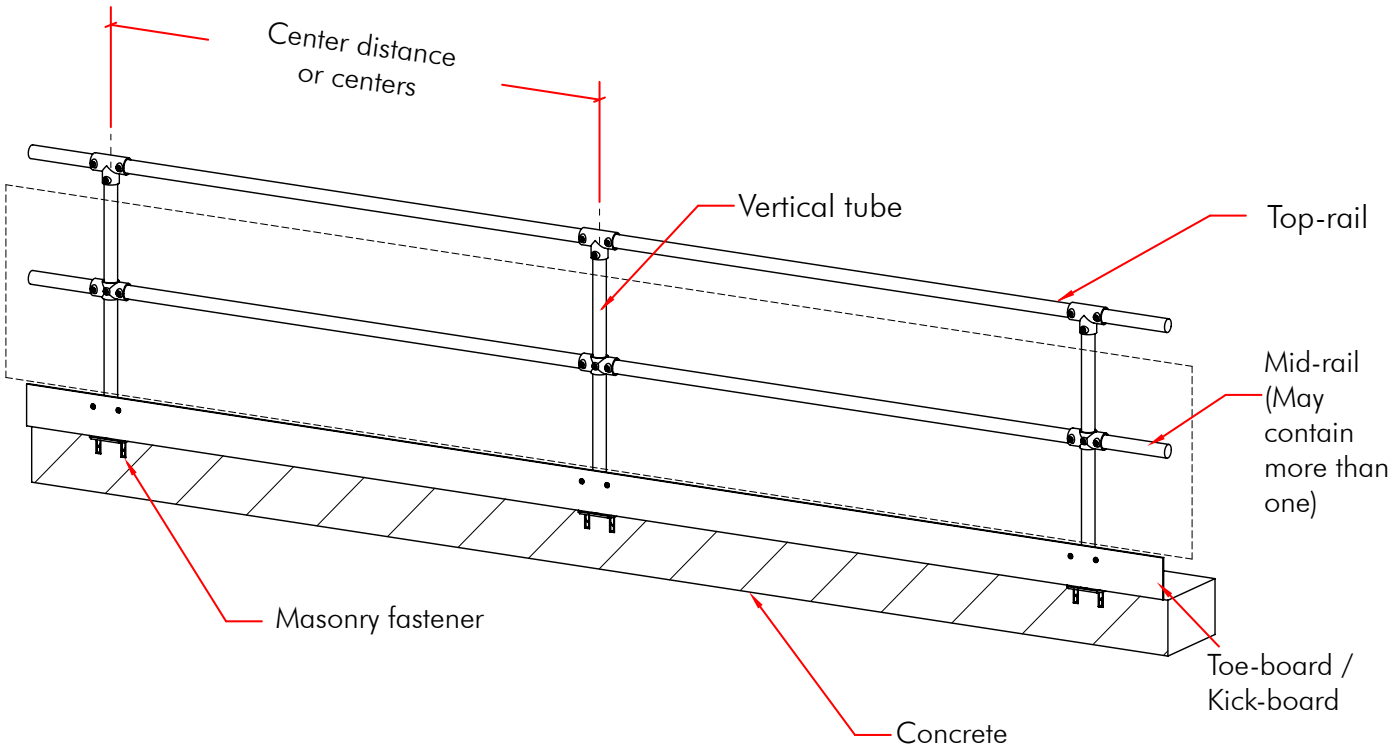


Figure 1 Parts of a handrail.

Concrete - Hard ground used for support.

Top-rail - The highest horizontal rail on the handrail.

Vertical tube - A straight tube pointing up from the ground.

Masonry fastener - A fastener used to fix handrail onto the ground.

Mid-rail - Any horizontal tubes along the handrail with the exception of the highest horizontal tube.

Toe-board / Kick-board - A low barrier along the ground used to prevent any objects from rolling past the handrail.

Center Distance or Centers - The distance between the center position of one vertical tube to the center position of an adjacent vertical tube.

TYPICAL INSTALLATIONS

How to increase the strength within a handrail structure?

Steel or Aluminum?

For the same handrail length, steel requires less components than aluminum.
However, aluminum handrails are more common when exposure to moisture or water is high.
Aluminum will resist rust much better than steel.

Increase the Tube Diameter

There are four tube diameters commonly used in handrails, they are 33.7mm, 42.4mm, 48.3mm, and 60.3mm. For residential homes 33.7mm tubes are more common, mainly due to cost constraints. However, these handrails when installed correctly will tend to flex a little more when used. Typical handrail tube diameters are 42.4mm and 48.3mm. Usually found in car parks, commercial districts, or industrial areas. 60.3mm tube diameters are used only when strength is the most important factor.

Increase the Tube Wall Thickness

Choosing a thicker wall tube will increase the strength of the tube. Anything 2.6mm or greater may be used for a standard handrail. Anything 3.5mm or greater is considered very strong.

Decrease Handrail Post Spacing

The strength of the handrail structure will improve if the distances between adjacent vertical posts decreases. This is because, for the same length of handrail there are more mounting points to the ground making the structure more rigid.

Increasing the Number of Horizontal-Rails

Generally the more horizontal rails the stronger the handrail. However, different applications may require any number of rails. For residential properties, one horizontal rail is common. A typical handrail configuration consists of two rails. A triple rail handrail is only used when strength is a priority.

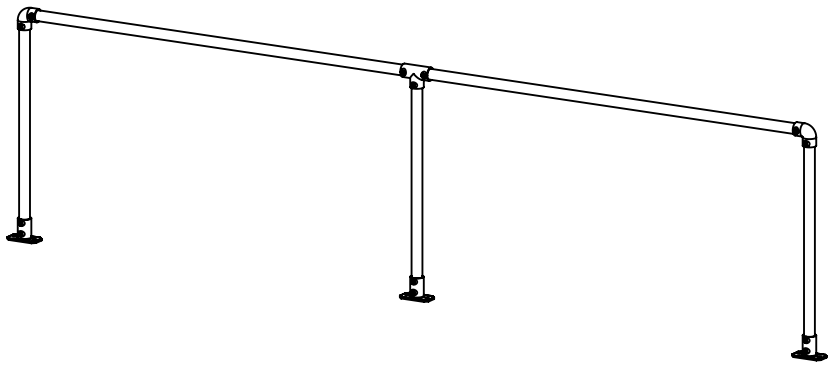


Figure 2 Single-rail handrails are typically only used within residential areas. These handrails will ensure adequate support for walking along ramps and stairs. However, they do not provide enough protection between the rail and the ground.

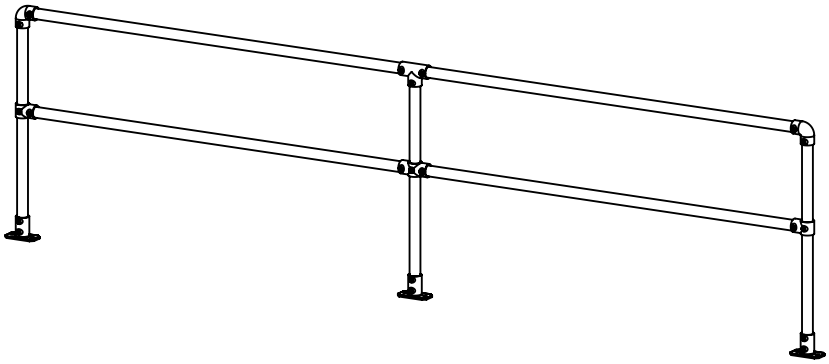


Figure 3 A two-rail handrail is the typical handrail design. These handrails are mainly used in industrial applications. This design is used because it provides a lot of strength and protection for the cost per metre. Also suitable for residential and commercial areas.

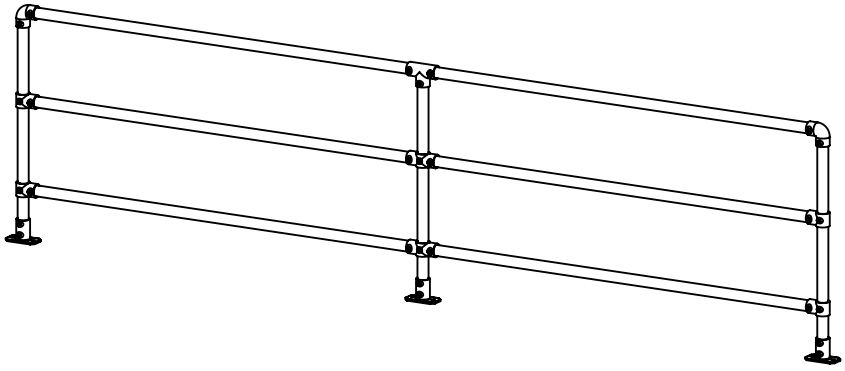


Figure 4 A triple-rail handrail system is used when pedestrian walkways and high vehicle traffic meet. These handrails also have shorter center distances between vertical posts.

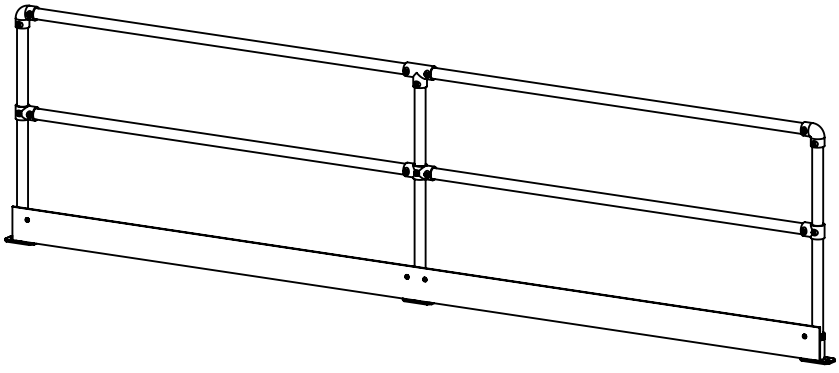


Figure 5 Handrails with toe-board / kick-board installed are generally used where handrails are directly above pedestrian walkways. The boards help prevent any objects from falling over the edge.

COMMON POSTS

Termination posts are used to begin a handrail or end one. They are also commonly used for gate additions along a handrail, or just an opening free from obstructions.

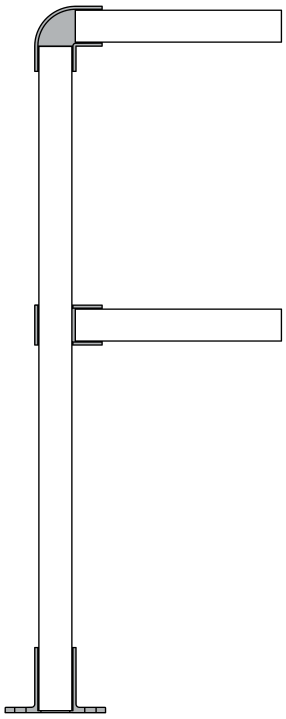
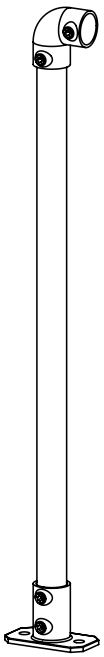


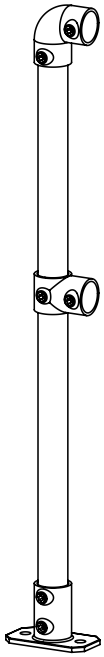
Figure 6 Termination Posts.

TC412



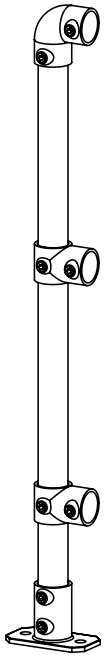
TC125 x 1
TC232 x 1

TC422



TC125 x 1
TC101 x 1
TC232 x 1

TC432



TC125 x 1
TC101 x 2
TC232 x 1

Intermediate posts are the most commonly used. These posts allow a handrail to extend further by connecting the horizontal rails together.

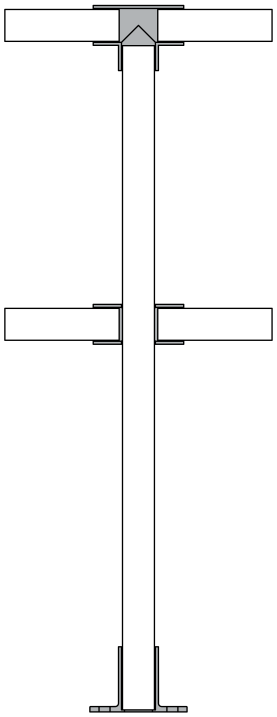
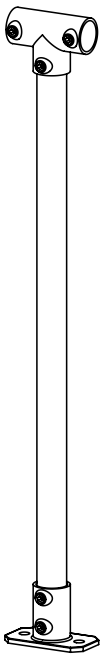


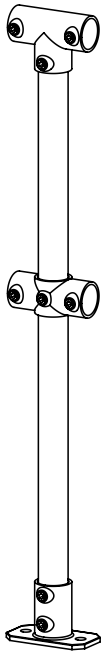
Figure 7 Intermediate Posts.

TC411



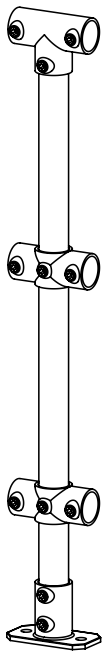
TC104 x 1
TC232 x 1

TC421



TC104 x 1
TC119 x 1
TC232 x 1

TC431



TC104 x 1
TC119 x 2
TC232 x 1

Corner posts are used when two handrails come together at a 90 degree. Options are availble when the two handrail join at angles other than 90 degrees.

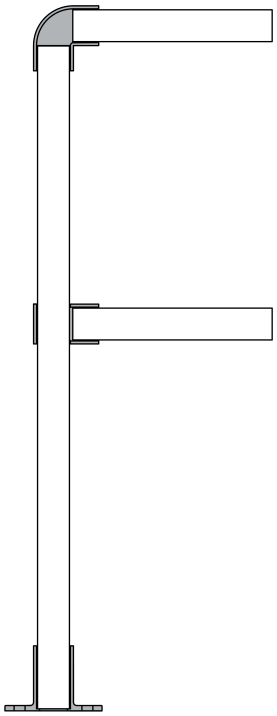
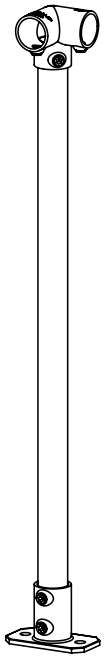


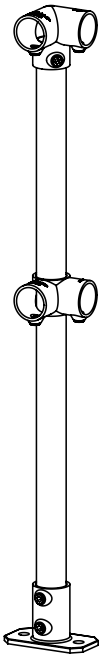
Figure 8 Corner Posts.

TC413



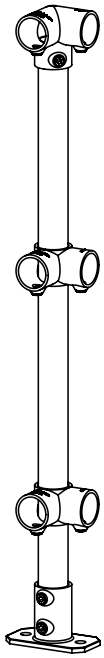
TC128 x 1
TC232 x 1

TC423



TC128 x 1
TC116 x 1
TC232 x 1

TC433



TC128 x 1
TC116 x 2
TC232 x 1

Junction posts are used when the end of one handrail meets the middle of another handrail at 90 degrees. Other fittings may be used if the handrails don't meet at 90 degrees.

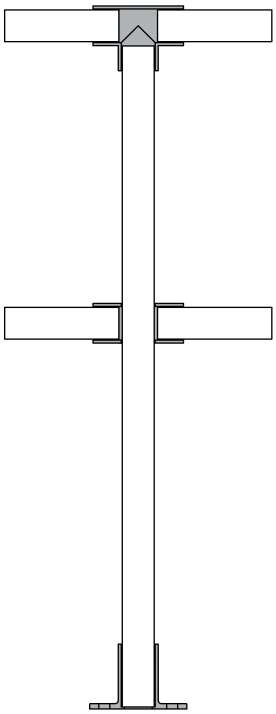
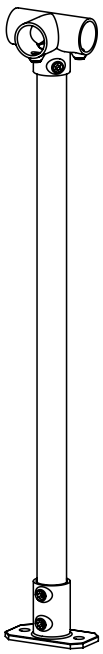


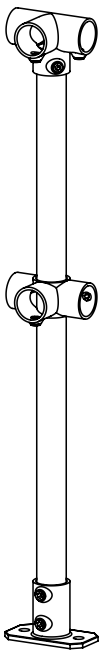
Figure 9 Junction Posts.

TC414



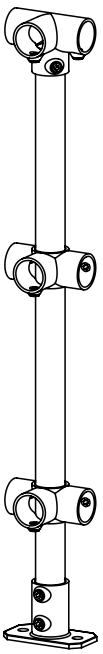
TC177 x 1
TC232 x 1

TC424



TC177 x 1
TC176 x1
TC232 x 1

TC434



TC177 x 1
TC176 x 2
TC232 x 1

TUBE SELECTION

Selecting the right tubes for the handrail requirements can be a very intimidating process. There are several tube diameters available for use in handrail systems, they range between 34mm to 60mm. As the tubes get larger in tube diameters, the strength and the cost per linear metre both increases. Choosing either the 42.4mm or the 48.3mm diameter tubes will provide adequate strength for a reasonable price.

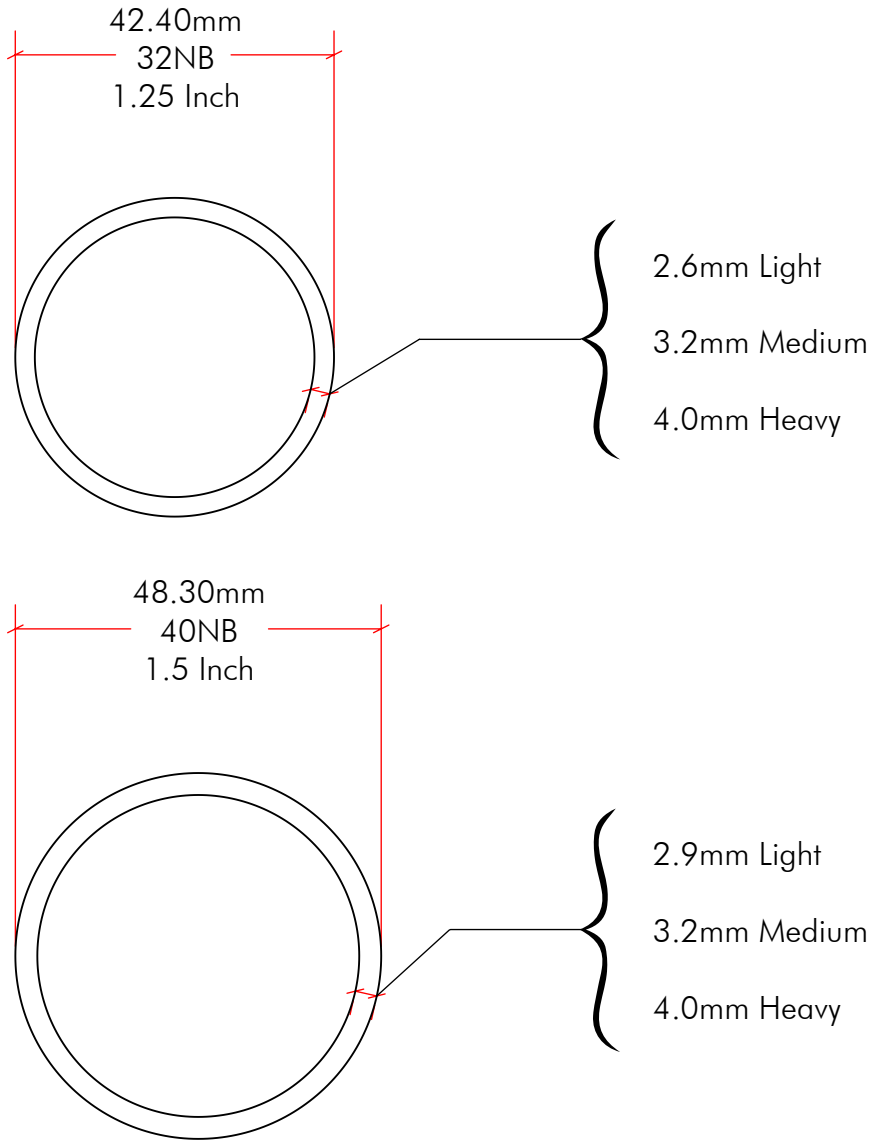


Figure 10 Steel tubes come in several different wall thicknesses, using any tube with a wall thicker than 2.5mm should be adequate. When the wall thickness increases, the strength of the tube also increases.

Generally handrail posts are spaced at 2 metre centers. This holds true for most cases, however if a handrail needs more strength, handrails would be at 1.5 metre center or less. For a more precise method to determine the maximum center distance of handrail posts, please review Table 1.

Table 1
MINIMUM IMPOSED ACTIONS FOR BARRIERS

Type of occupancy for part of the building or structure		Specific Uses	Top Edge			Infill	
			Horizontal kN/m	Vertical kN/m	Inwards, outwards or downwards kN	Horizontal kPa	Any Direction kN
A	Domestic and residential activities	All areas within or serving exclusively one dwelling including stairs, landings, etc, but excluding external balconies and edges of roods (see C3)	0.35	0.35	0.6	0.5	0.25
		Other residential, (see also C)	0.75	0.75	0.6	1.0	0.5
B,E	Offices and work areas not included elsewhere including storage areas.	Light access stairs and gangways not more than 600mm wide	0.22	0.22	0.6	N/A	N/A
		Fixed platforms, walkways, stairways and ladders for access (see Note)	0.35	0.35	0.6	N/A	N/A
		Areas not susceptible to over-crowding in office and institutional buildings also industrial and storage buildings	0.75	0.75	0.6	1.0	0.5
C Areas where people may congregate							
C1/ C2	Areas with tables or fixed seating	Areas with fixed seating adjacent to a balustrade, restaurants, bars, etc.	1.5	0.75	0.6	1.5	1.5
C3	Areas without obstacles for moving people and not susceptible to over-crowding	Stairs, landings. external balconies, edges of roofs, etc.	0.75	0.75	0.6	1.0	0.5
C5	Areas susceptible to over-crowding	Theaters, cinemas, grandstands, discotheques, bars, auditoria, shopping malls, (see also D), assembly areas, studios, etc.	3.0	0.75	0.6	1.5	1.5
D	Retail areas	All retail areas including public areas of banks/building societies, (see C5 for areas where over-crowding may occur)	1.5	0.75	0.6	1.5	1.5
F/G	Vehicular	Pedestrian areas in car parks including stairs, landings, ramps, edges of internal floors, foot ways, edges of roofs	1.5	0.75	0.6	1.5	1.5
		Horizontal loads imposed by vehicles	See Clause 3.6				

NOTE: Table 1 Provides the minimum force rating for handrails in different applications. This table can be found on page 14-15 of AS/NZS 1170.1:2002 Structural design actions Part 1: Permanent, imposed and other actions. Please see Example 1 on how to use Table 1.

Relationships Between Loads and Centers

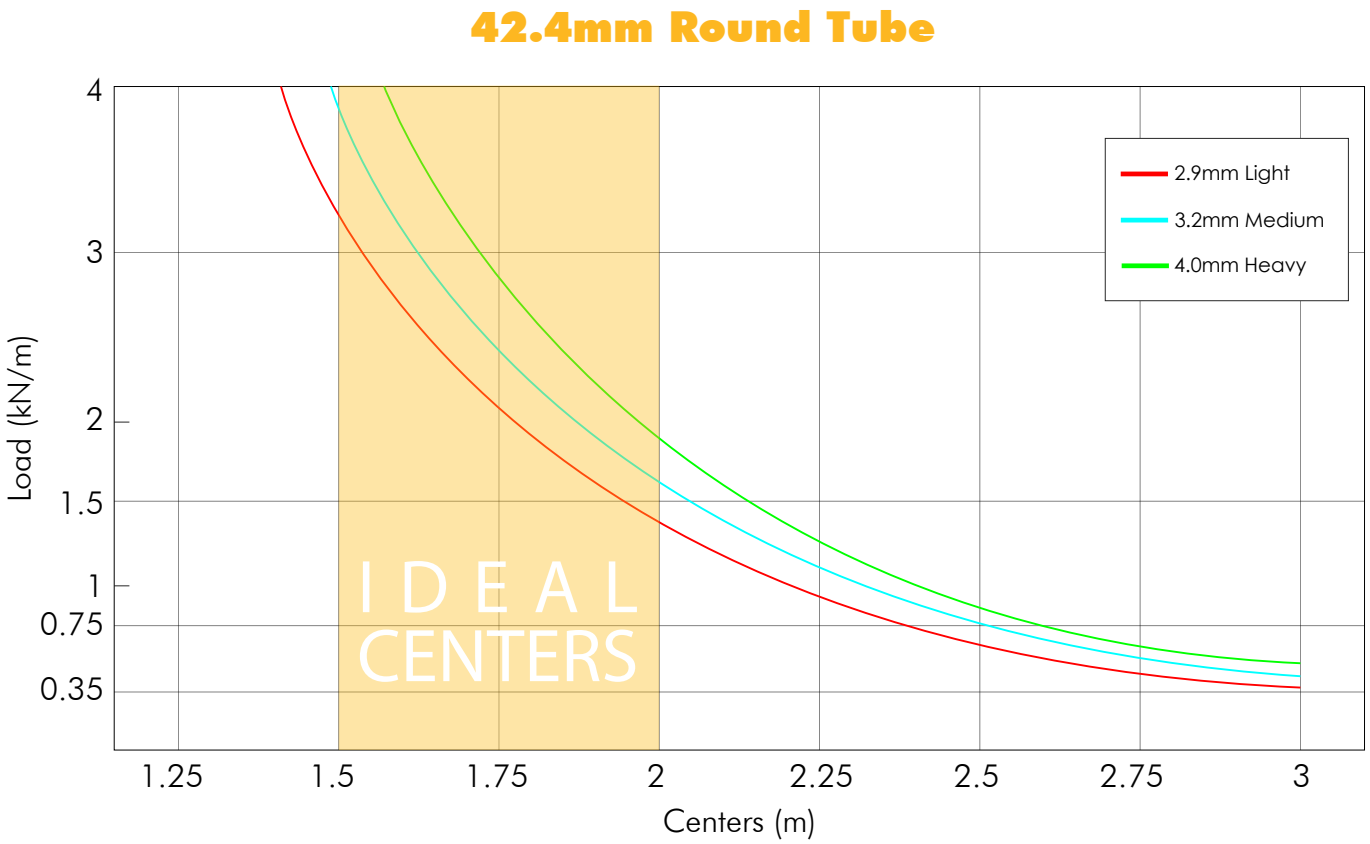


Figure 11 This graph helps you to calculate the maximum center distance for your posts based on the information obtained from Table 1. It must not be used for disability handrails. This graph is for Size C standard handrails.

Example 1

Scenario - Handrail within the office to section off servers from the rest of the office.

From this scenario and looking up data in Table 1, it appear that section B,E is the best suited. According to the table 0.75N/m is the minimum load the handrail must withstand.

Cross-referencing 0.75N/m with Figure 11 will give the maximum allowed center distances for the handrail.
For 42.4mm x 2.6mm steel tube, the maximum centers allowed of 2.375m.
For 42.4mm x 3.2mm steel tube, the maximum centers allowed of 2.5m.
For 42.4mm x 4.0mm steel tube, the maximum centers allowed of 2.6m.

NOTE: These center distances are only theoretical in the sense that ground material has not been considered. Please consult competent persons for more information in terms of mounting handrails.

Relationships Between Loads and Centers

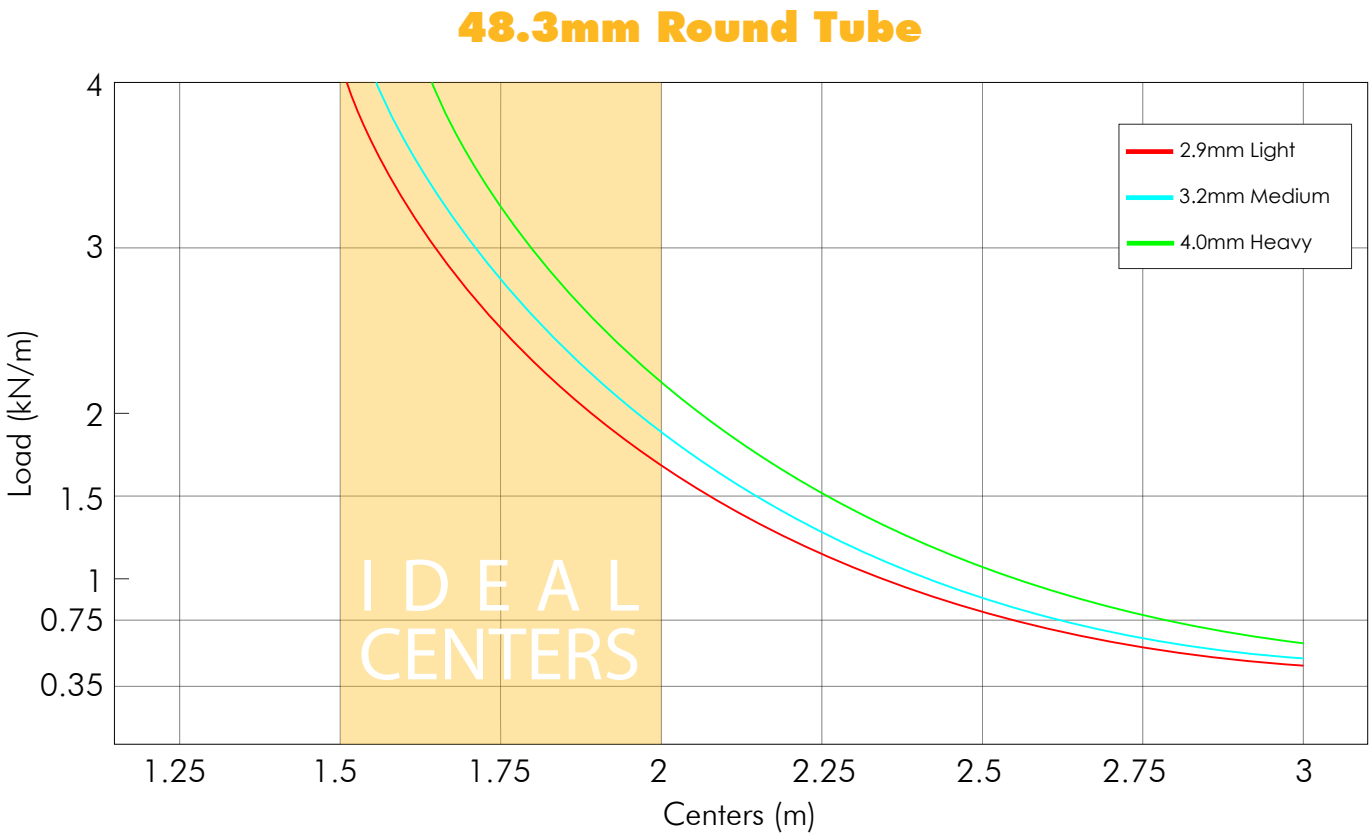


Figure 12 Shows how much force a 48.3mm tube withstands before reaching 0.15% deflection. Find the centers of the handrail using the load obtained from Table 1.

Example 2
Scenario - Handrail along a footpath in a car park.

When cross-referencing the scenario with Table 1, section F/G has the closest description. 1.5kN/m is the biggest force the handrail must withstand.

Therefore, to find the maximum post distances for this handrail. Use 1.5kN/m in **Figure 12** and read off the center distances for different tube thicknesses.

For 48.3mm x 2.9mm steel tube, the maximum centers is 2.1m.
For 48.3mm x 3.2mm steel tube, the maximum centers is 2.15m.
For 48.3mm x 4.0mm steel tube. the maximum centers is 2.25m.

NOTE: These center distances are only theoretical in the sense that ground material has not been considered. Please consult competent persons for more information in terms of mounting handrails.

DIMENSIONAL GUIDELINES

TYPICAL HANDRAIL

A handrail has a height between 900mm and 1100mm, ideally this height should be consistent throughout the entire handrail. If mid-rails are also installed then the inside distance between the top-rail and mid-rail should be no more than 450mm apart. The distance between the mid-rail and the ground should also be no more than 560mm apart. See **Figure 13** for more details.

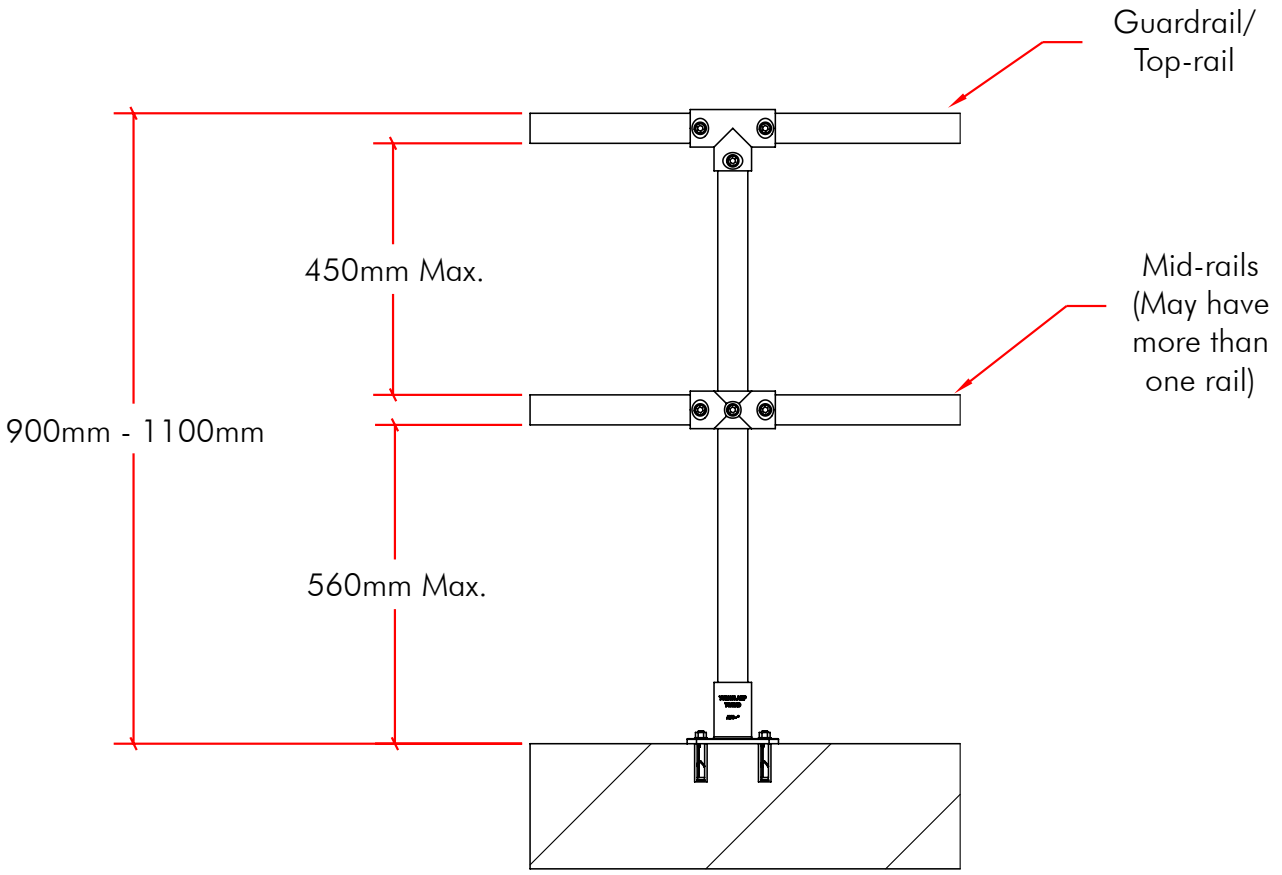


Figure 13 Typical handrail dimensions.

The maximum spacing for handrail centers is 2 metres, although shorter handrail centers are often encouraged. If handrail centers longer than 2 metres are used, please consult competent persons.

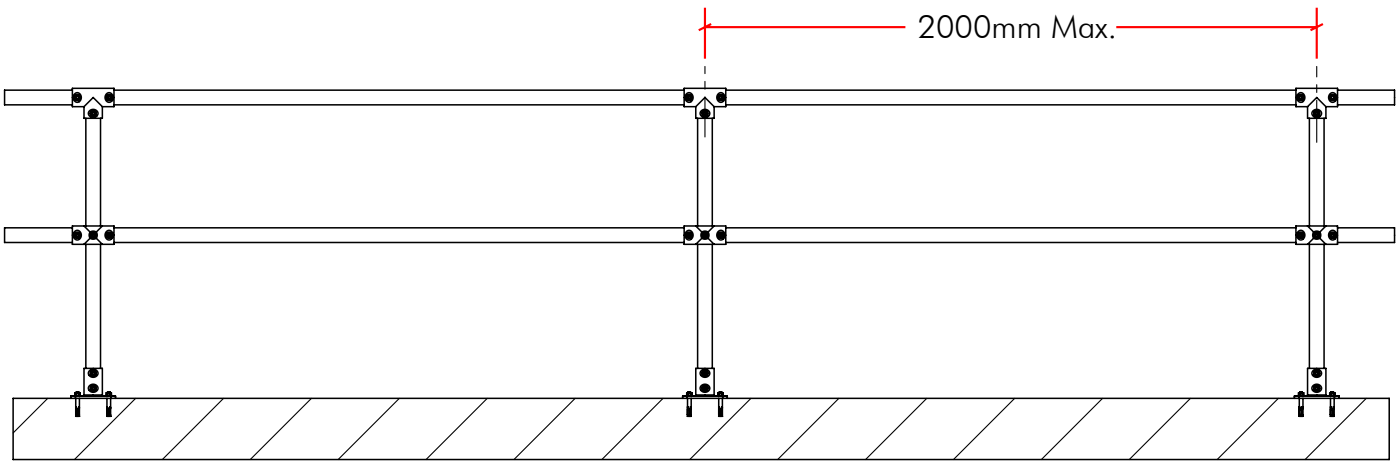


Figure 14 Typical spacing of vertical posts.

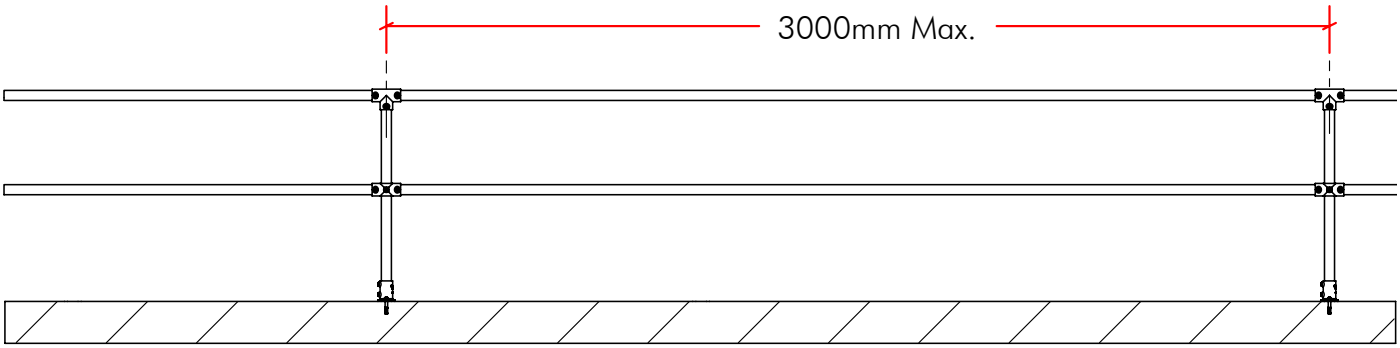


Figure 15 Vertical post spacings between 2000mm and 3000mm.

If designers and specifies desire handrails with centers greater than 2 metres. Then consider applying these changes:

- All base fittings turned 90 degrees to the handrail when installed (0 degrees is in the same direction as the horizontal rails).
- All tubes used in the handrail are 40NB or 48.3mm outside diameter, with a wall thickness of 3.2mm or greater.
- All masonry fasteners used to install the handrail must be rated medium duty or greater.
- All masonry fasteners used to install the handrail must be M12 or greater with a minimum embedment depth of 100mm.

NOTE: This is only elementary information. All designs and approvals must be authorised by competent persons.

Handrails are usually installed with the base fittings in the same direction as the rails (shown in Position 1 of **Figure 16**). This allows the handrail to be installed closer to the edge of the property. If the base fittings are turned 90 degrees to the handrail direction (as shown in Position 2 of **Figure 16**). The handrail will be inherently stronger.

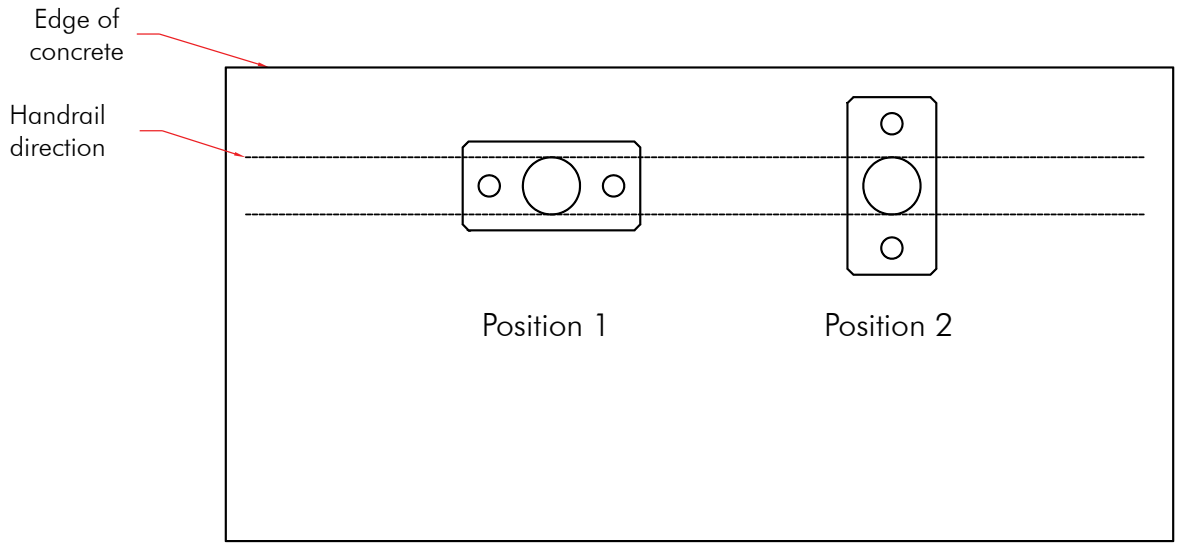


Figure 16 Position 1 is the most common installation orientation. Position 2 will provide more strength in the handrail.

When handrails are installed on a ramp or slope the maximum center distance for the posts is 2 metres. If handrail must comply with disability standards, please see disability guidelines for information and details regarding handrails.

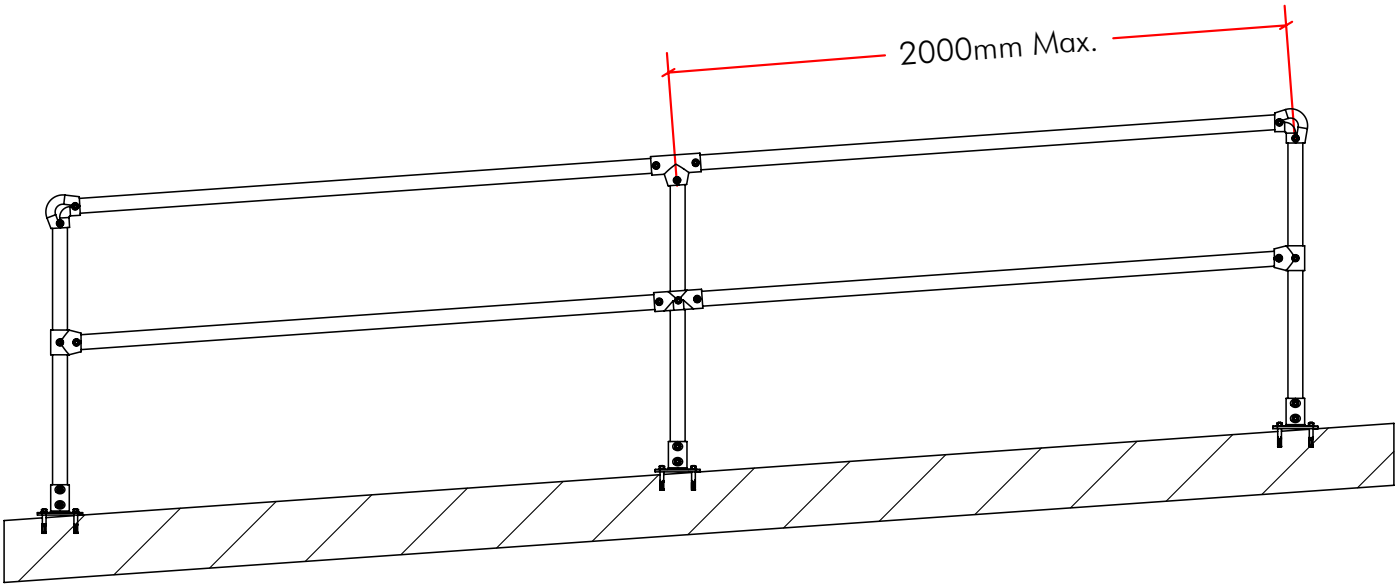


Figure 17 A standard handrail for ramp installations. Base fittings are TC232 which will require installer to include packers to level fitting. See **Figure 48** for more details.

When two handrails are running parallel to each other. The distance requirements are:
* The base fittings must be a minimum of 600mm apart.
* Any protruding elements other than the bases must be a minimum of 550mm apart.
Provided that it still satisfies the first requirement.

NOTE: This does not comply with disability standards. Please see disability guidelines for more information.

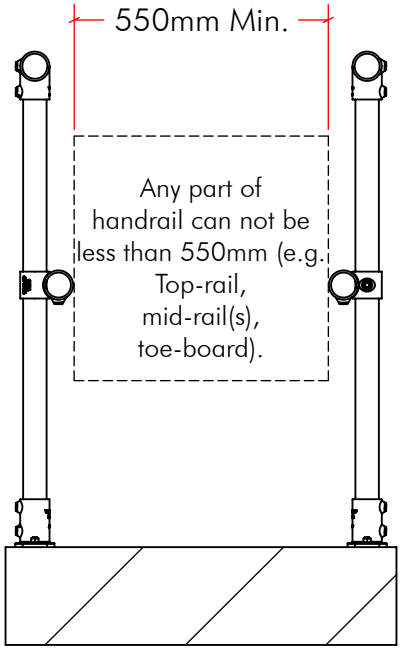


Figure 18 This situation only applies where two handrails are parallel, and do not join each other.

Where a handrail is within close proximity of a raised or elevated platform. The handrail height will have to be re-evaluated. If the pathway between the raised platform and the handrail is 1200mm or less. Then the height of the handrail shall be between 1200mm and 1500mm (higher is better). More mid-rails may be necessary when increasing handrail heights. If the pathway is wider than 1200mm then handrail heights shall be between 900mm and 1100mm.

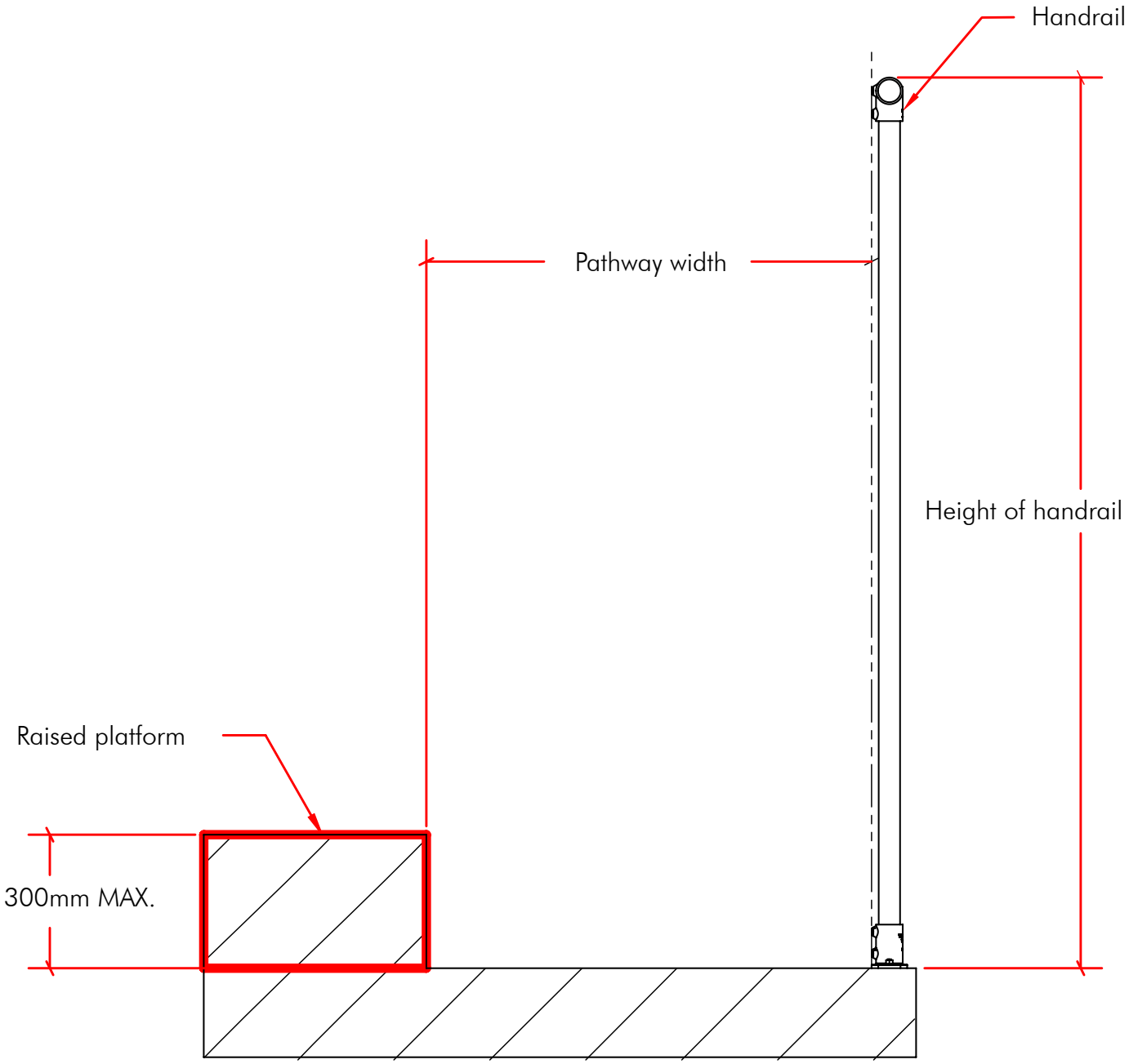


Figure 19 If pathway width is less than 1200mm then height of handrail is 1200mm to 1500mm (higher is better). If pathway width is greater than 1200mm then height of handrail is between 900mm - 1100mm.

NOTE: Mid rails and toe-boards / kick-boards are not shown for clarity, include where necessary. Please consult competent persons.

Where a handrail is designed to be installed and removed on a frequent basis. The allowable gap between the two handrails is between 25mm and 50mm.

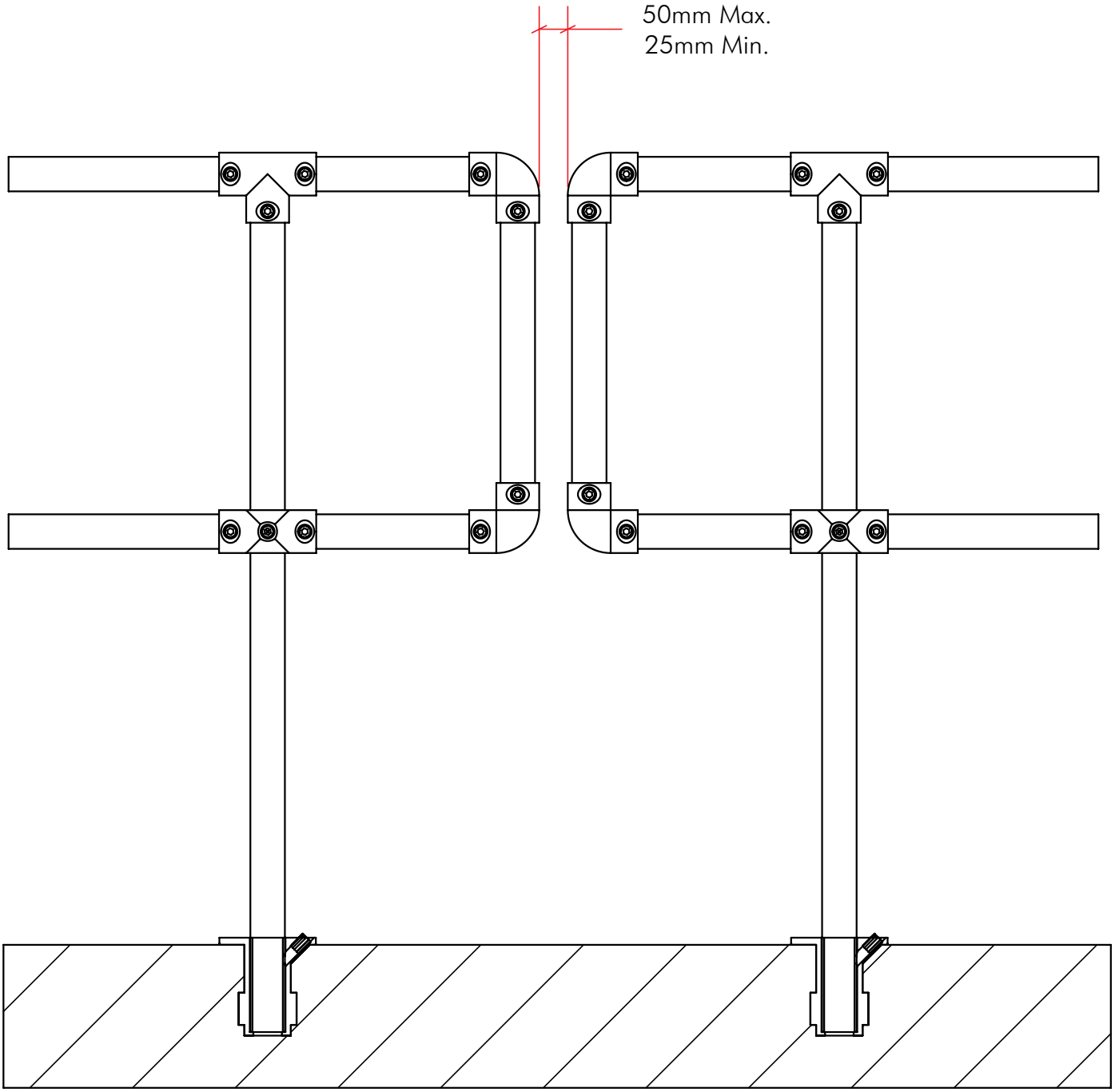


Figure 20 Removable handrail sections require a gap between 25mm to 50mm.

DIMENSIONAL GUIDELINES

KICKPLATE

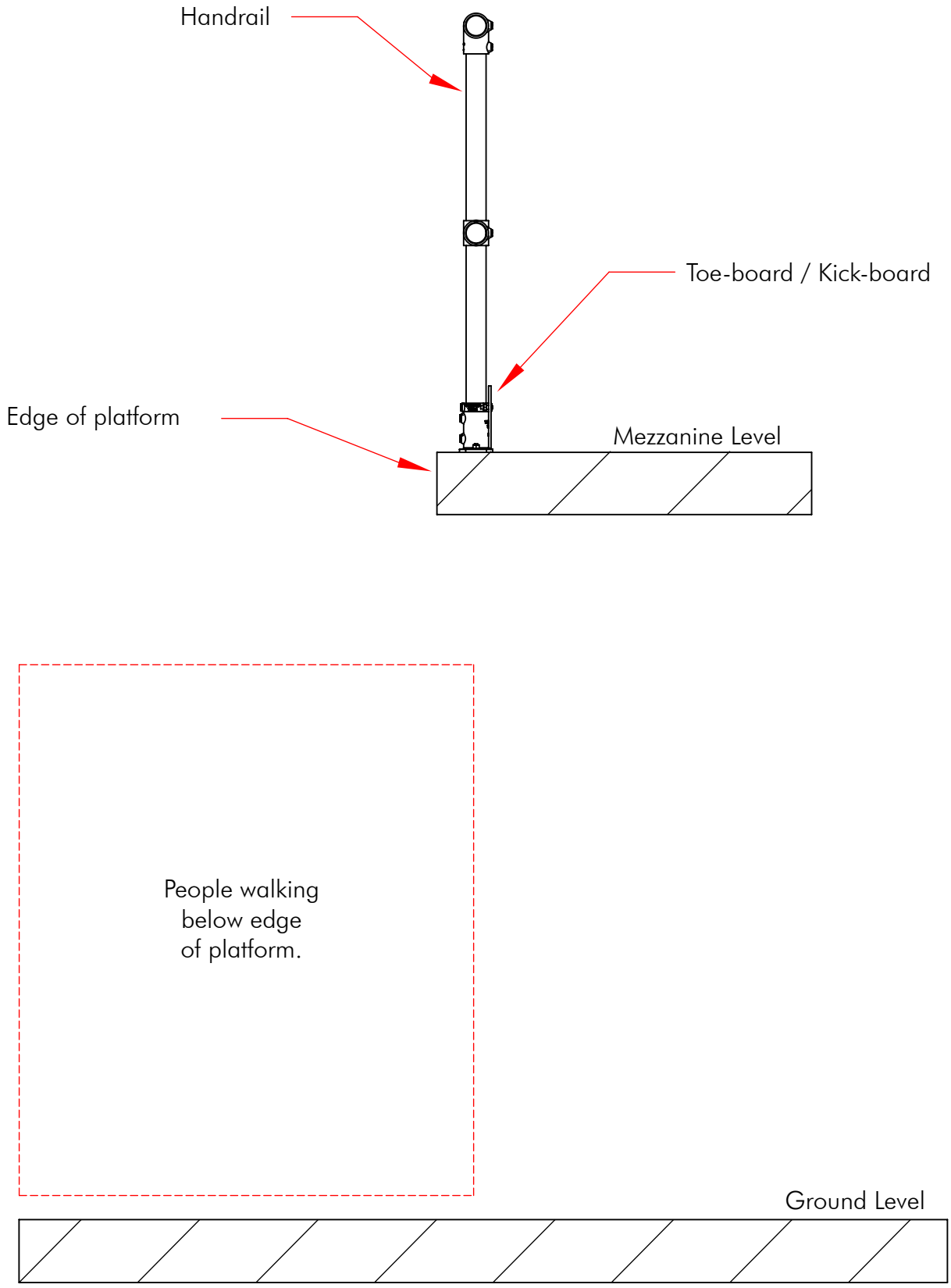
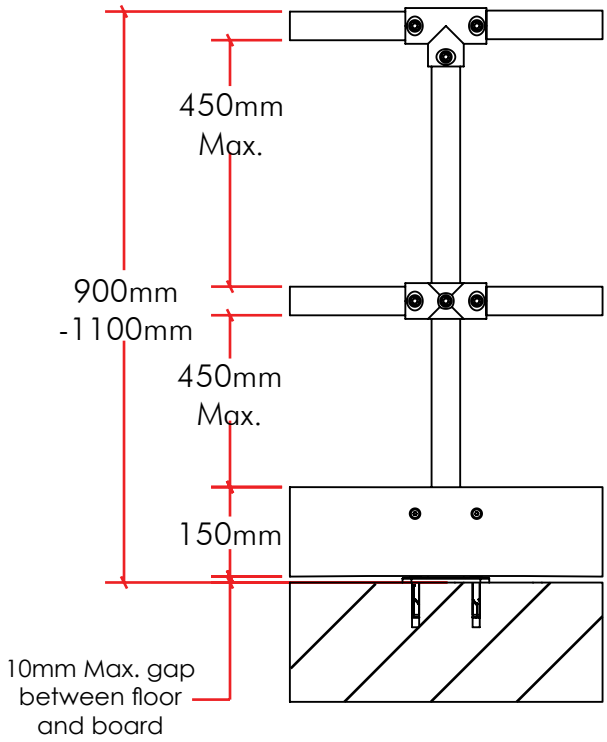


Figure 21 Toe-boards / Kick-boards are used to prevent loose objects from passing the handrail.

The height of a handrail with toe-board / kick-board installed is between 900mm and 1100mm. The gap between the top-rail and mid-rail shall be less than or equal to 450mm. The gap between the mid-rail and the top edge of the board shall be less than or equal to 450mm. When installing a toe-board / kick-board it shall be 10mm or less off the ground.



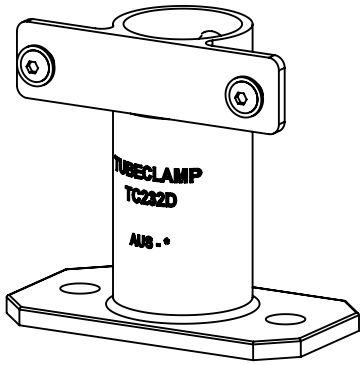
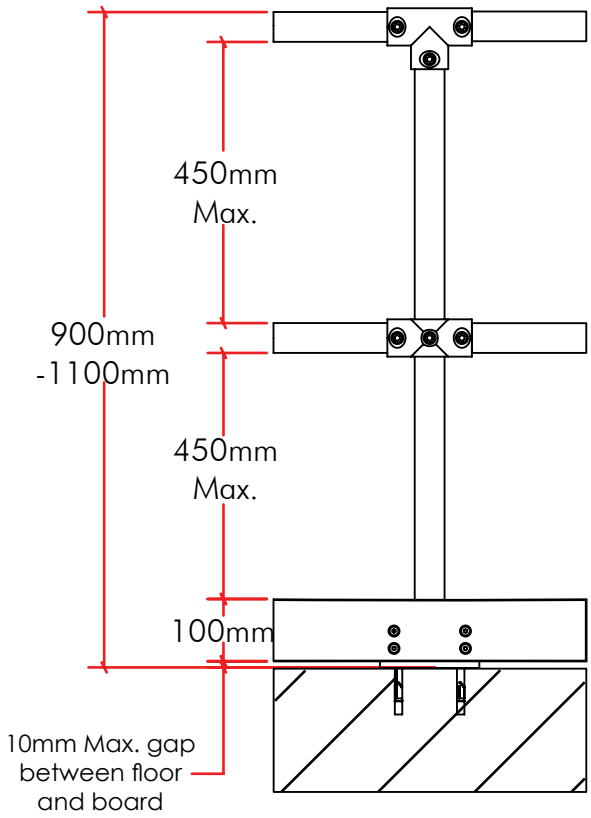


Figure 22 A 150mm wide board is used when the base fittings on the handrail is TC232 + TC198.



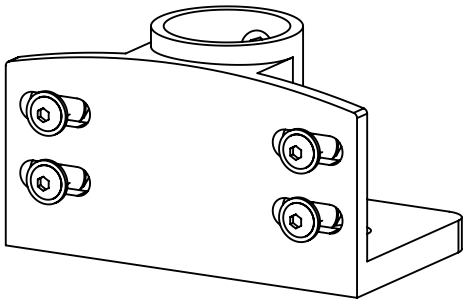


Figure 23 A 100mm wide board is used when the base fitting is TC247.

There are two methods to mount toe-boards / kick-boards. They can be cut to the same length as the handrail centers and install onto the fittings. Or another option is to have the length of the boards extend past the vertical posts and use a backing plate to join the two boards together. Either of the two is fine, even a combination of the two is adequate so long as the boards are immovable after installation.

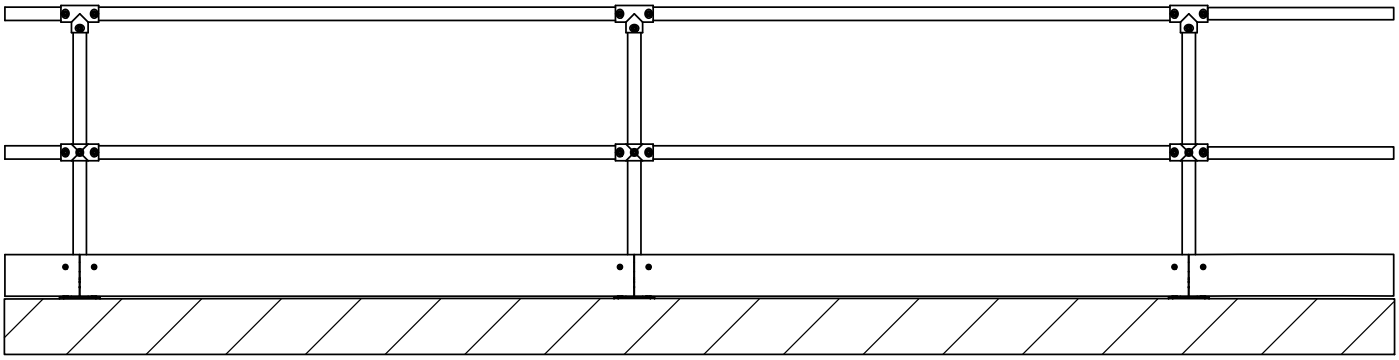


Figure 24 Cut toe-boards / kick-boards to the same length as the handrail centers.

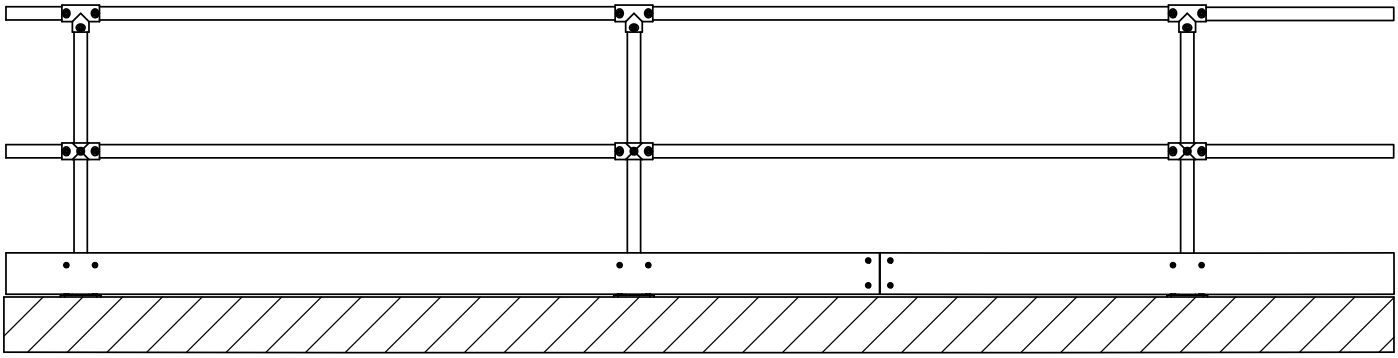


Figure 25 Allow the boards to extend past the vertical tubes. Using a backing plate join both boards together.

The minimum width of toe-board / kick-board shall be 100mm. The only gap allowed along the length of the handrail is between the ground and the bottom edge of the board.

There are two ways to install toe-boards / kick-boards at a corner. Both methods require an angle bracket to join to two together.

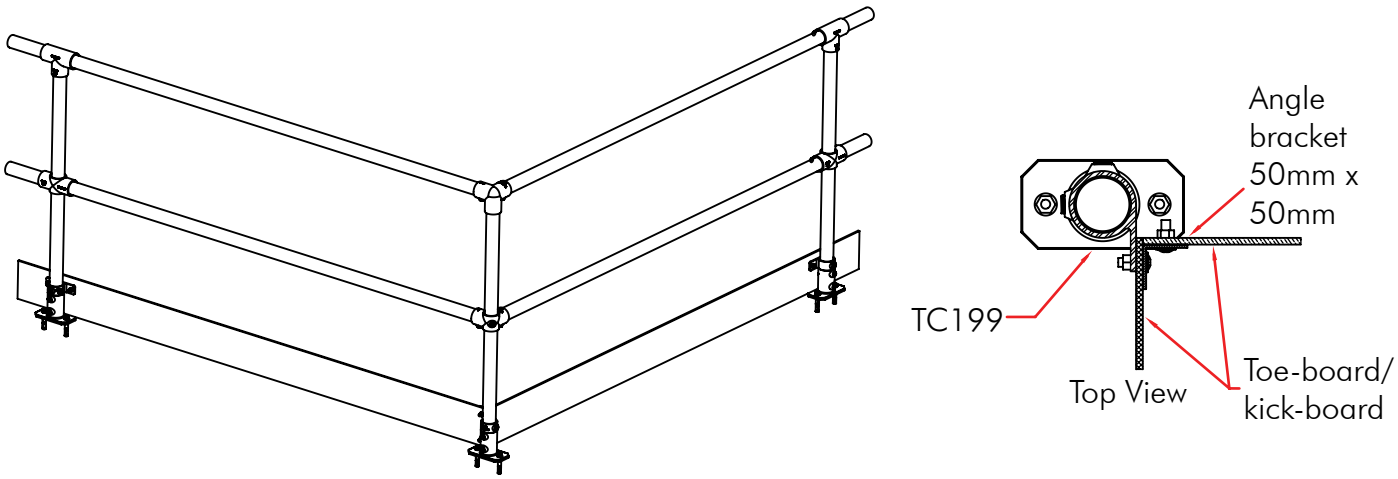


Figure 28 Standard corner configuration for Toe-board / kick-board

Figure 26 The method shown in Figure 26 uses a single lugged bracket TC199 mounted onto the corner post. One of the boards is mounted to the fitting along with an angle bracket. The other board is then joined to the angle bracket. The second method when assembled provides a very strong position. However, the length of the boards shown as 'b' must be longer than the distance extend up to the second post.

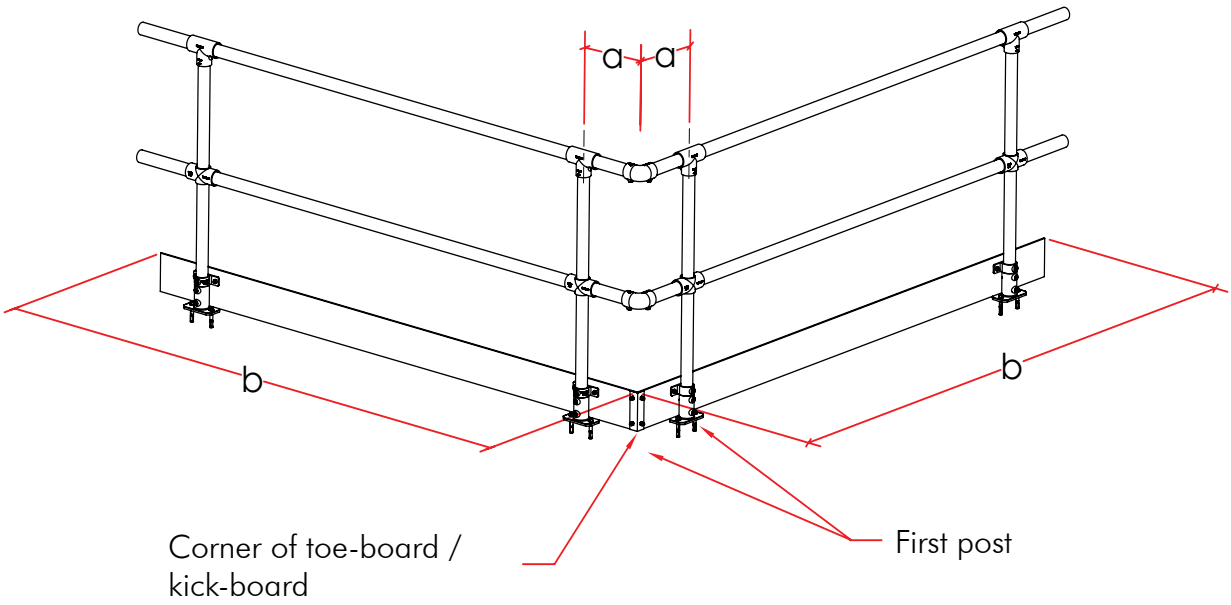


Figure 27 Heavy duty corner configuration. Length 'a' is no greater than 300mm from the corner of the toe-board / kick-board to the center of the first post. Length 'b' must be equal to or longer than the center distances of two posts.

DIMENSIONAL GUIDELINES

GATES

Gate access can easily be integrated into a handrail barrier. There are several designs used in different situations. Figure 28 shows a standard gate assembly, this is a simple design with no added features. Signs and warnings may be attached onto the gate with additional fittings.

Size	f	g	h	i	Tube (NB/mm)
A	User Defined	g = f - h - i	61.0	40	20 / 26.9
B	User Defined	g = f - h - i	66.6	49	25 / 33.7
C	User Defined	g = f - h - i	77.0	59	32 / 42.4
D	User Defined	g = f - h - i	82.2	64	40 / 48.3

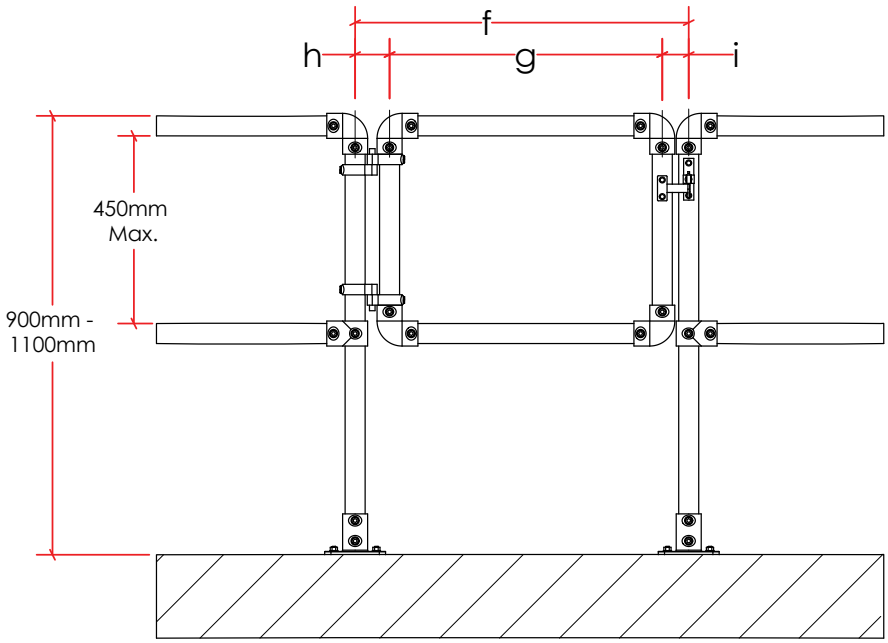


Figure 29 Standard gate design, to calculate the gate dimensions use the table provided.

Size	f	g	h	i	Tube (NB/mm)
A	User Defined	g = f - h - i	61.0	40	20 / 26.9
B	User Defined	g = f - h - i	66.6	49	25 / 33.7
C	User Defined	g = f - h - i	77.0	59	32 / 42.4
D	User Defined	g = f - h - i	82.2	64	40 / 48.3

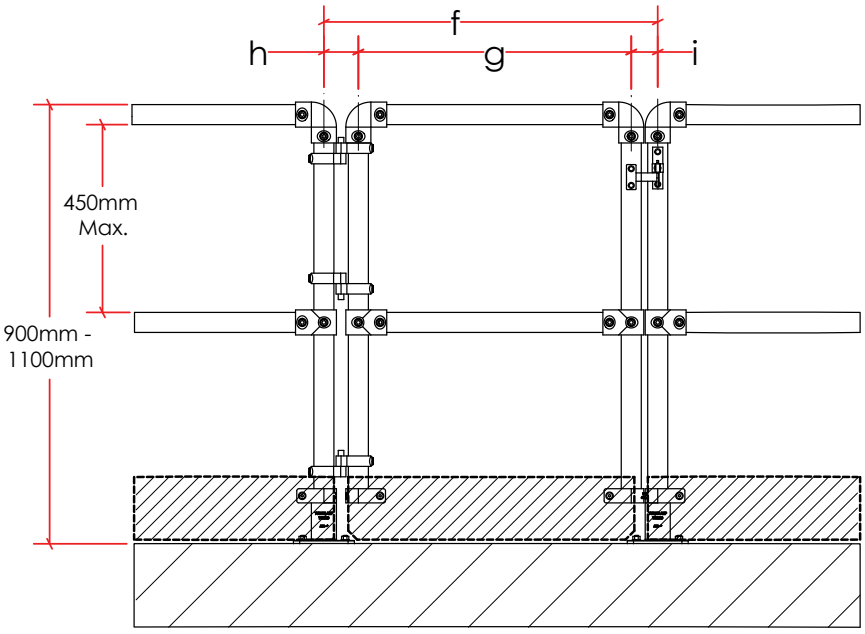


Figure 30 Toe-board / kick-board standard gate configuration.

This gate design is used when toe-boards / kick-boards are installed onto a handrail. The plate attached onto the gate needs special care to ensure that coverage is maximized without restricting gate movement.

Self closing gates are access gates which will always remain closed when not in use, and will close by themselves when the gate is used. The gate shown in Figure 30 is a standard self closing gate.

Size	f	g	h	i	Tube (NB/mm)
B	User Defined	g = f - i	72	49	25 / 33.7
C	User Defined	g = f - i	90	59	32 / 42.4
D	User Defined	g = f - i	102	64	40 / 48.3

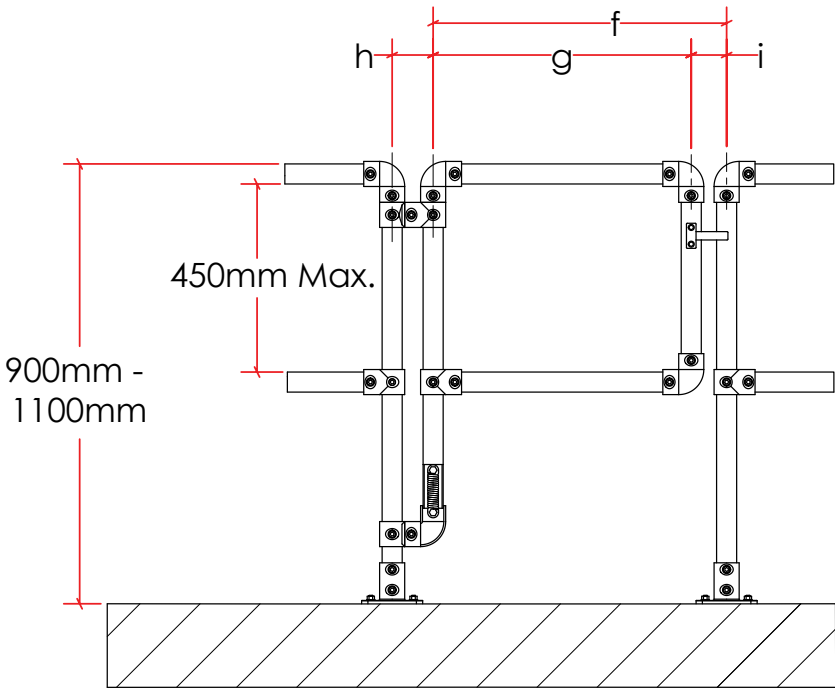


Figure 31 Self closing gate.

A self closing gate with a toe-board / kick-board attachment. Additional care needs to be taken to ensure that the board on the gate covers the maximum surface area.

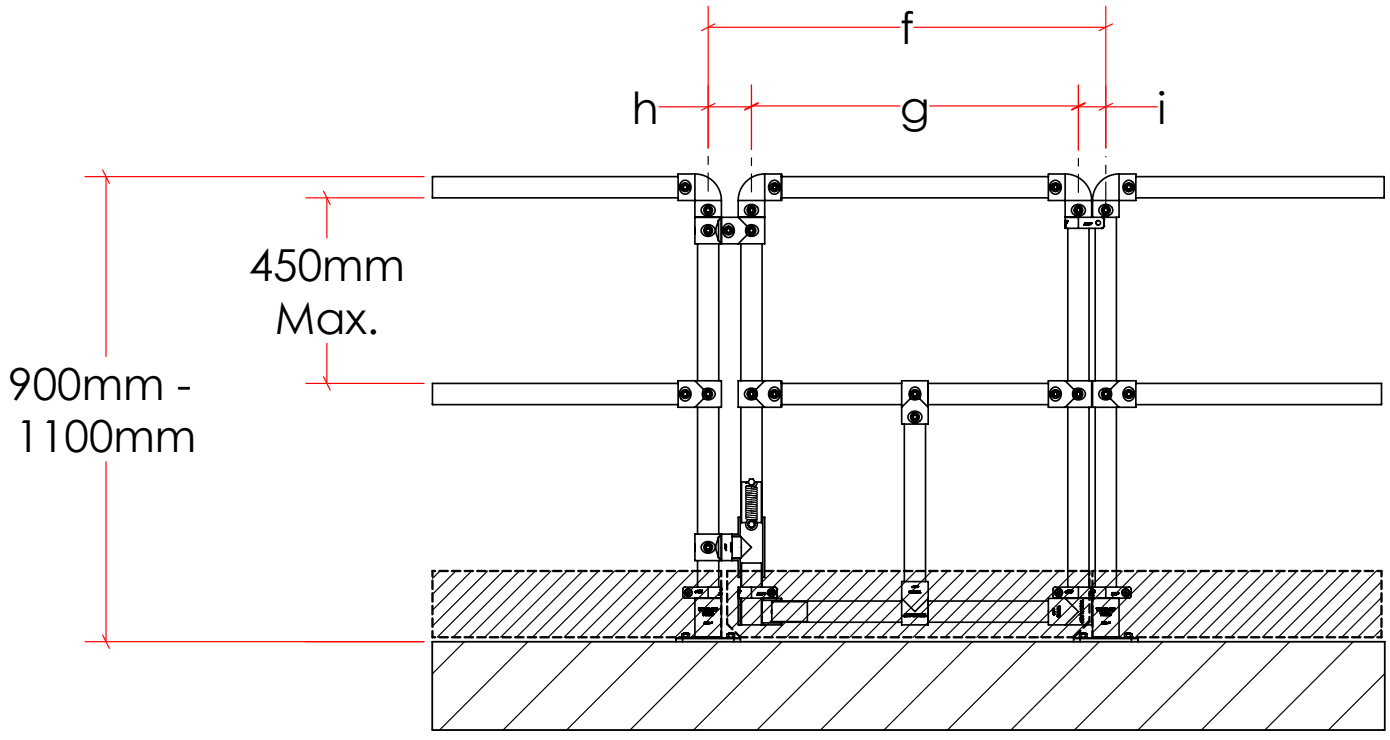


Figure 32 Self closing gate with kick plate.

The self closing gate uses a spring mechanism to close the gates automatically after use. This system is useful for environments where access points must remain closed at all times.

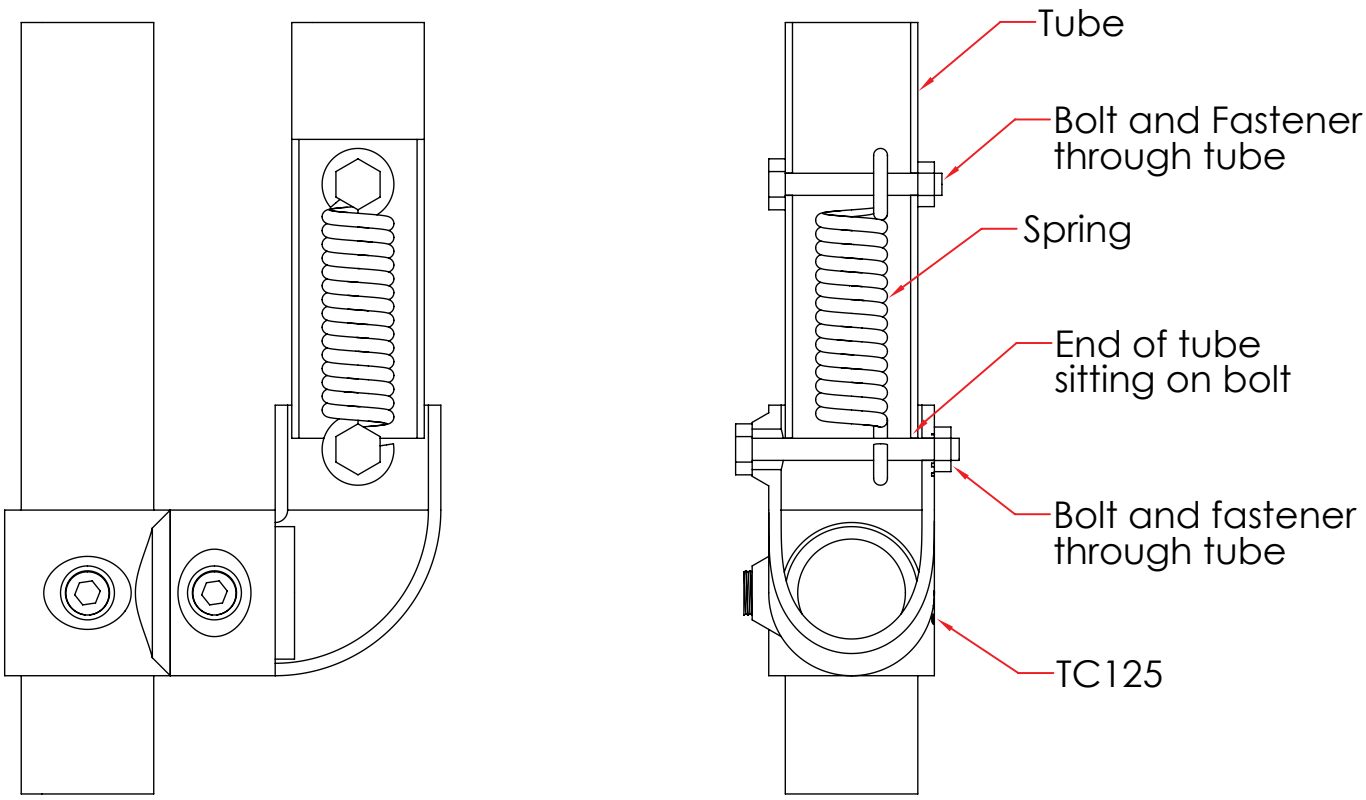


Figure 34 Section view of the spring mechanism in a self closing gate.

When forklifts need to transport pallets from the ground onto a higher level. Up and over gates are used to ensure a barrier is always present at all times during the lifting and placement of pallets.

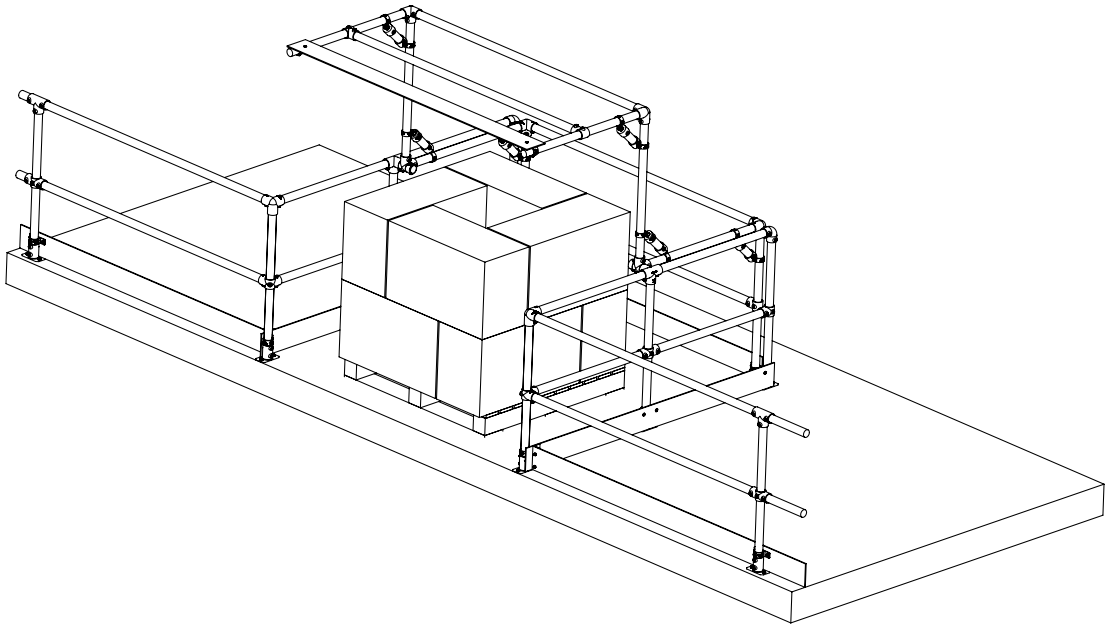


Figure 33 Up and over gate used to provide a safety barrier on mezzanines while loading pallets.

The footprint of the up and over gate is 2.28m by 2.15m. The maximum pallet dimensions which can pass through this gate is 1.8m in length, 2m in depth, and 1.2m in height. This design comes standard however, customizations to the layout is available.

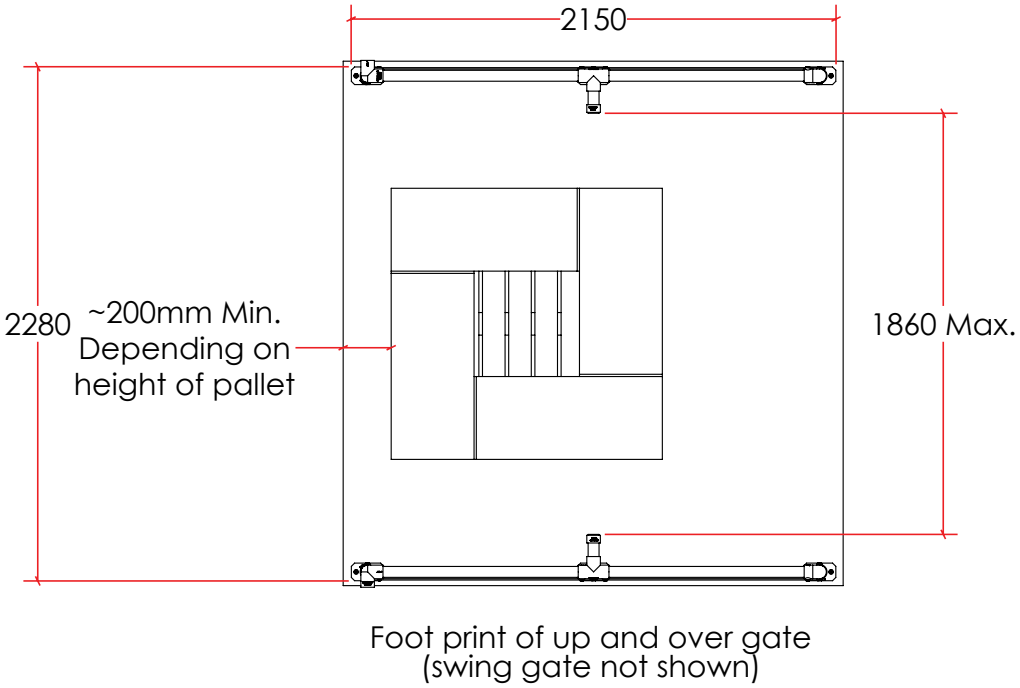


Figure 35 Up and over gate footprint, the structure connects to mezzanine handrails very easily.

The pallet needs to be a minimum distance of 200mm from the edge to ensure that the arm can swing past the pallet and rest at a neutral position.

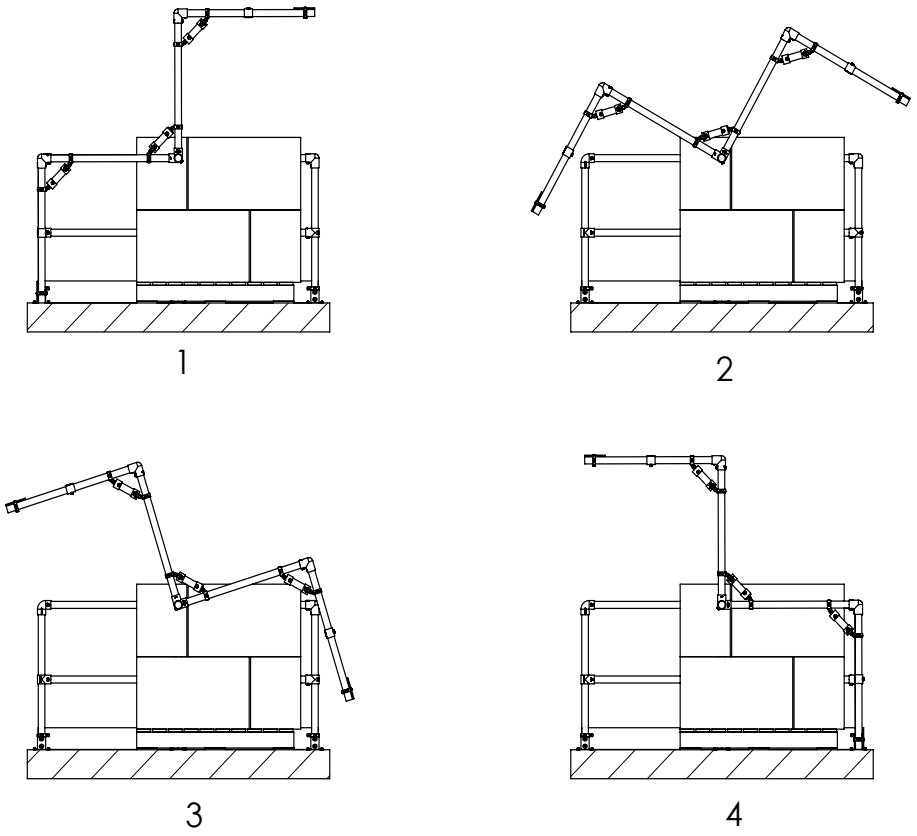


Figure 36 Motion of swinging arm.

DIMENSIONAL GUIDELINES

STAIRS

Stair handrails are to be between 900mm to 1100mm high, same as a regular handrail. The only difference between a regular handrail and a stair handrail is that the spacing between the center of the posts are shorter (1500mm or less). In almost all cases a mid - rail is necessary to provide protection below the top-rail. However, handrails installed in residential property may not require any mid-rails as a preference. Please seek more information from competent persons.

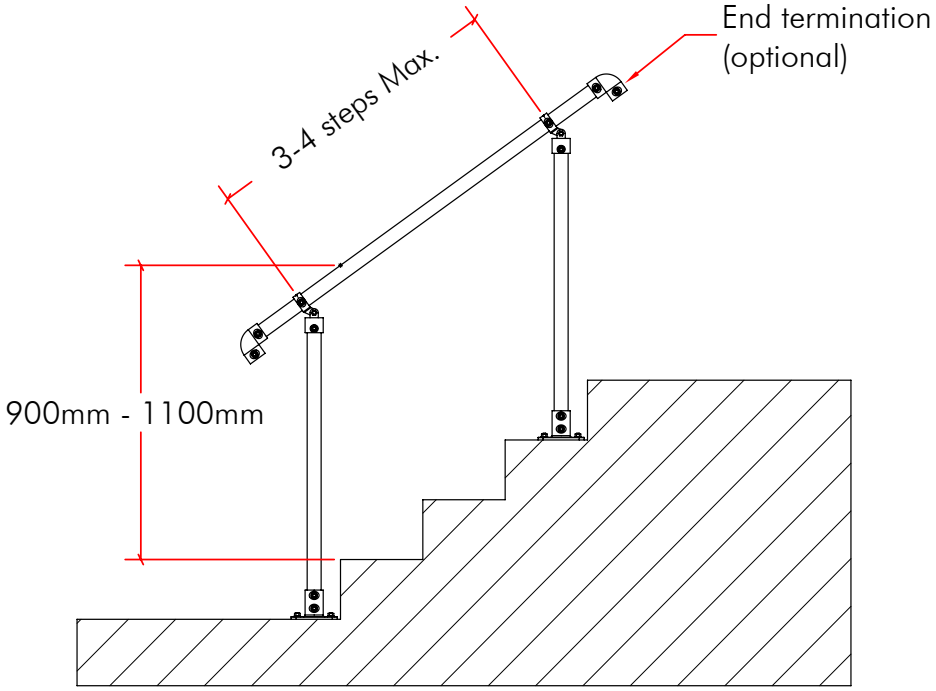


Figure 37 Handrail for a small set of stairs on private property only. Optional features include end fittings on top-rails. Mid-rail also optional.

Some optional features for stair handrails in private property include curving the ends of the handrails using TC125 and having mid-rails installed. Please seek competent persons if unsure.

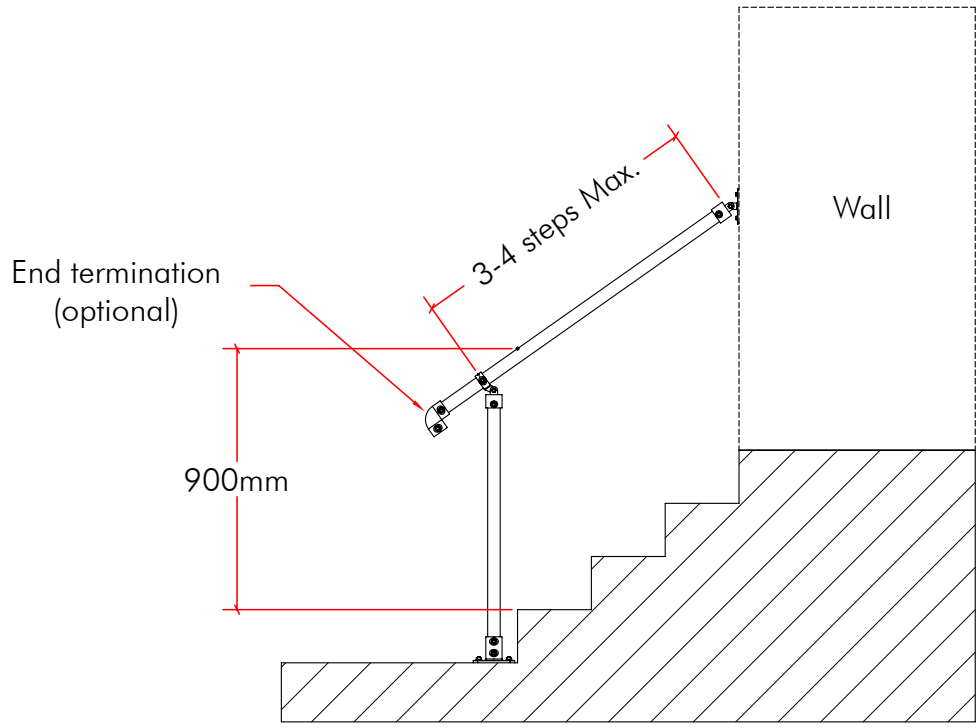


Figure 38 Wall terminating stair handrail for private property only, mid-rail optional.

Wall mounted stair handrails require the fittings to be spaced 1500mm apart. This will ensure that there is adequate strength to support the person using the handrail.

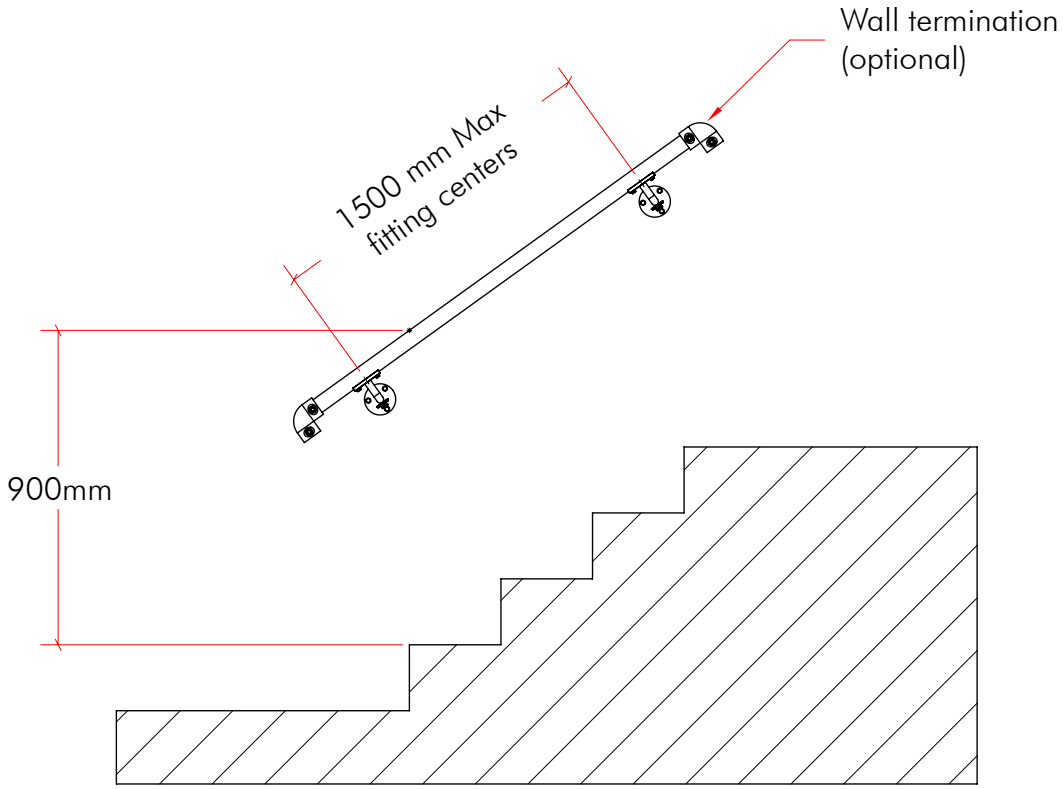


Figure 39 Wall mounted stair handrail for private property only. End terminations are optional.

Industrial stair handrails are designed to provide maximum strength. They do not require a smooth top-rail. This type of handrail is best suited for factories, or areas with heavy machinery, or places with little foot traffic.

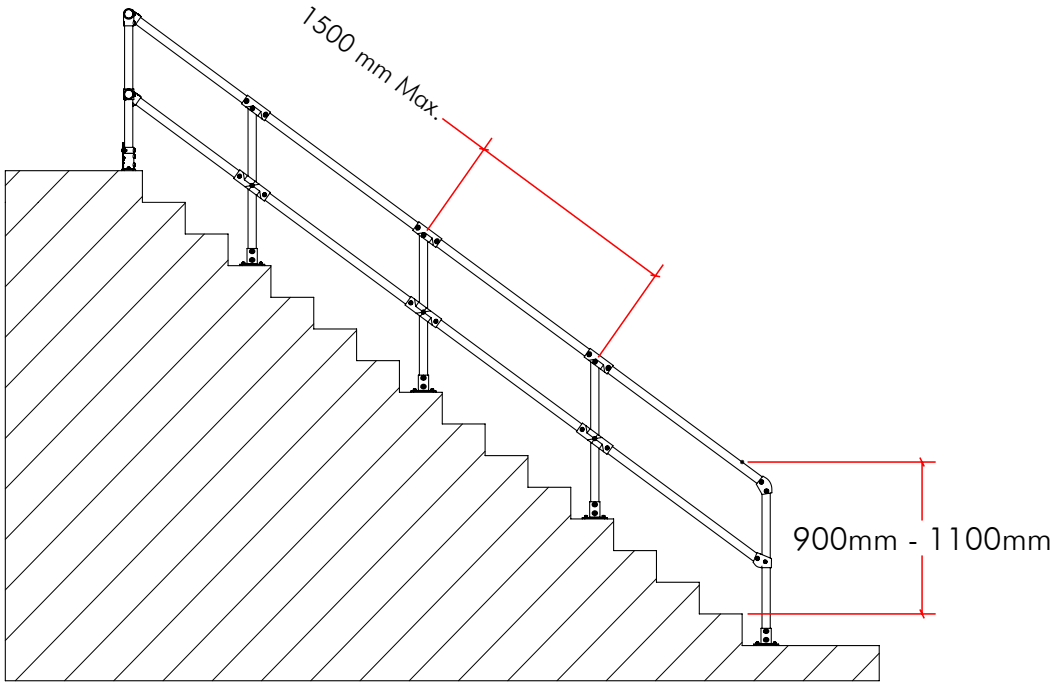


Figure 40 Industrial stair handrail designed for heavy duty protection.

A handrail which complies to the Australian Standards for stairs. This handrail contains a smooth top-rail (i.e. no protruding elements) with extensions of more than 300mm on both ends. For more information please seek competent persons.

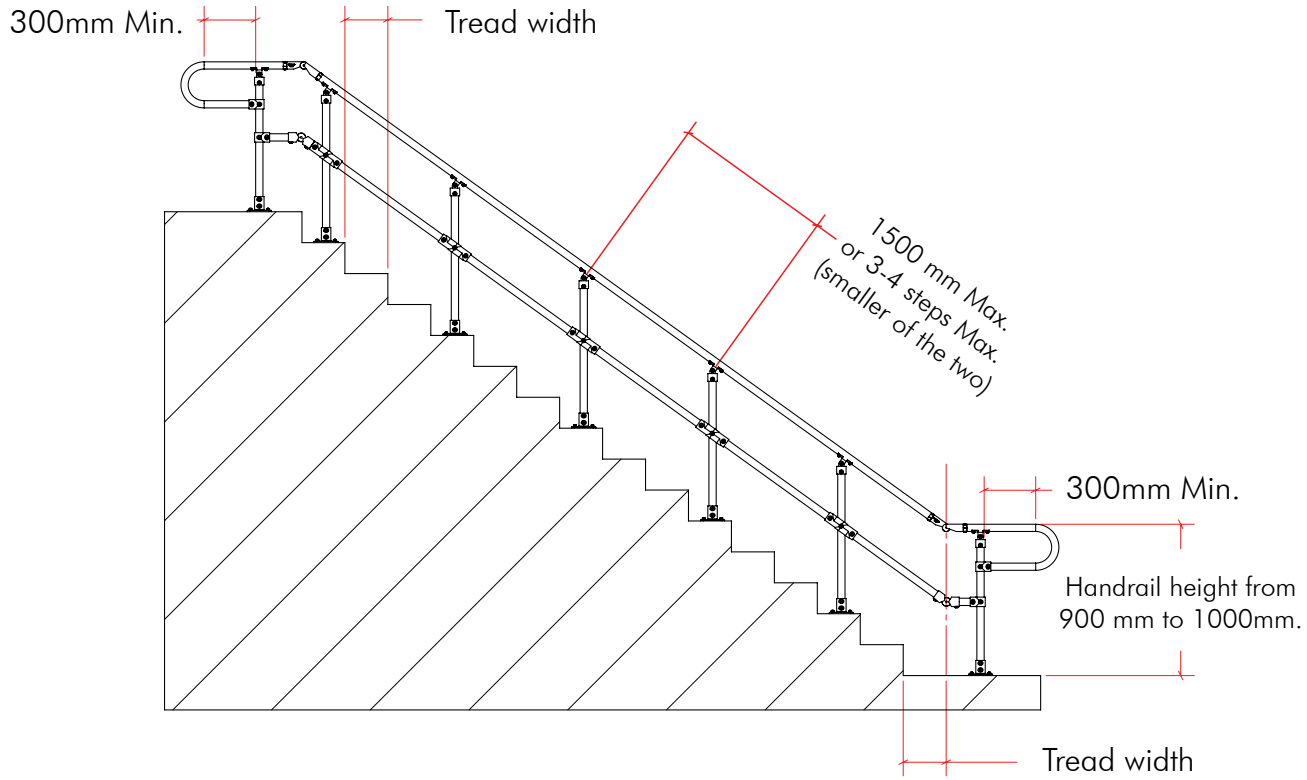


Figure 41 Stair handrail with smooth top-rail.

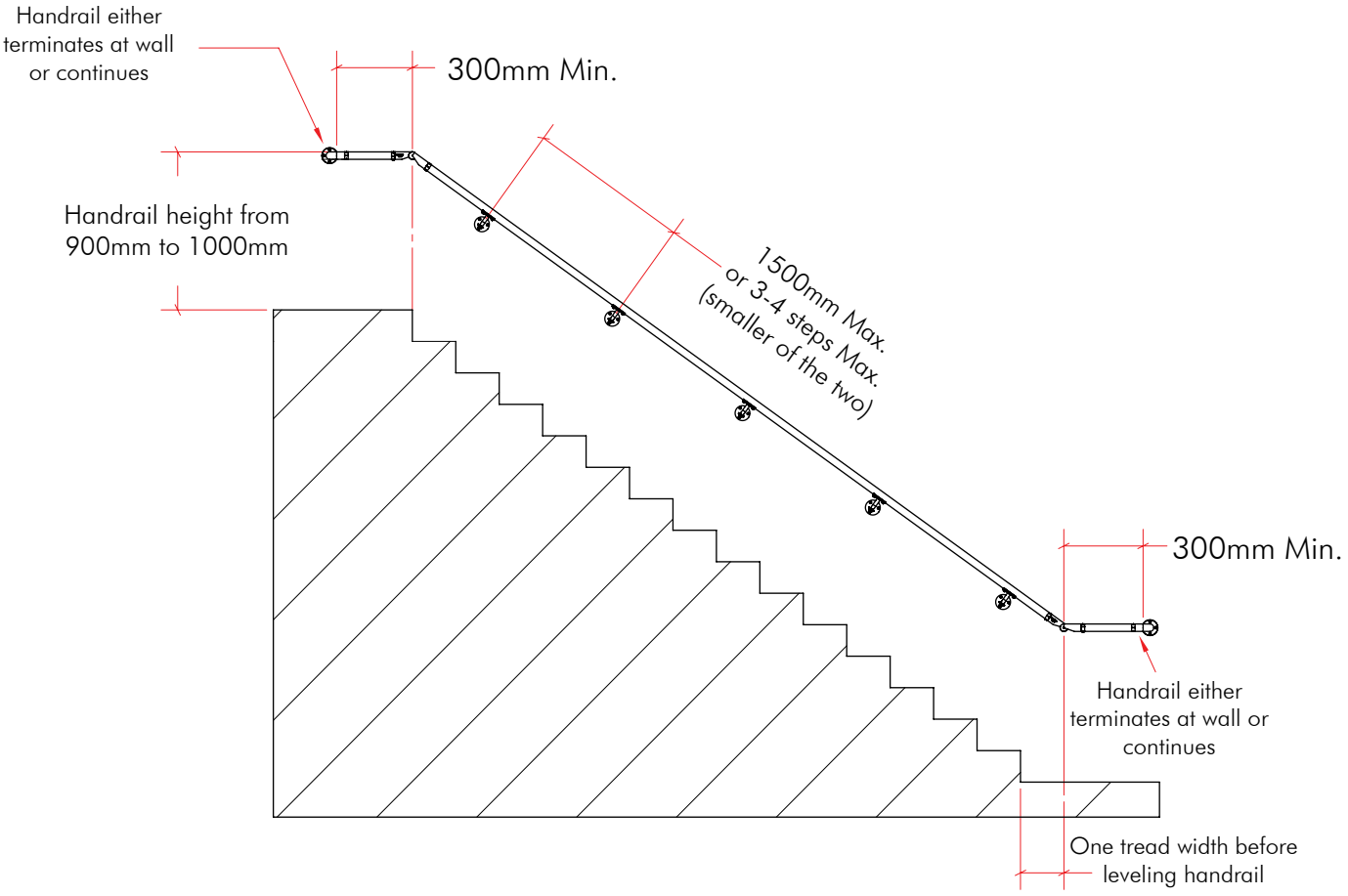


Figure 42 Wall mounted smooth top-rail.

MOUNTING OPTIONS

There are many ways to secure fittings into place. The most commonly seen substrates are concrete, wood / timber, and metal. Each type of foundation has specially designed fasteners which should only be used for that material.

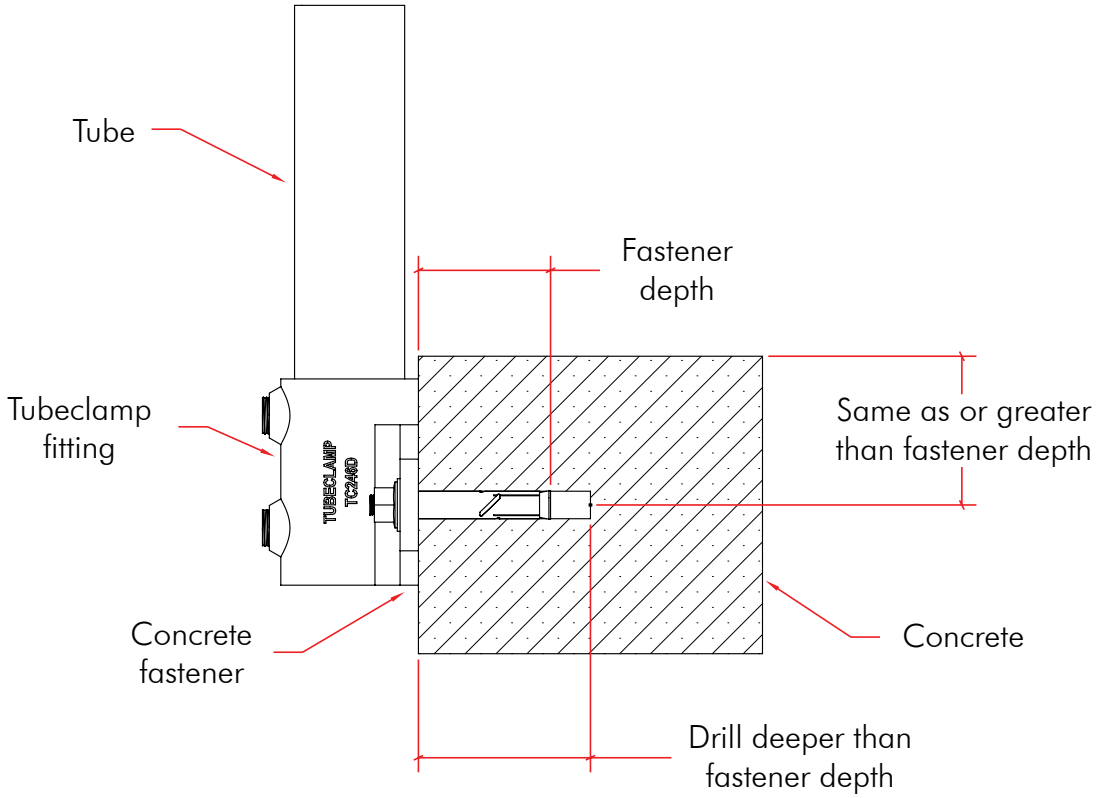


Figure 43 Side mounted base fitting for vertical posts. See fastener data sheet for more details.

When mounting base fittings into concrete be mindful of how close the fastener are to the edge of the concrete slab. This is to prevent any pieces from breaking off under load.

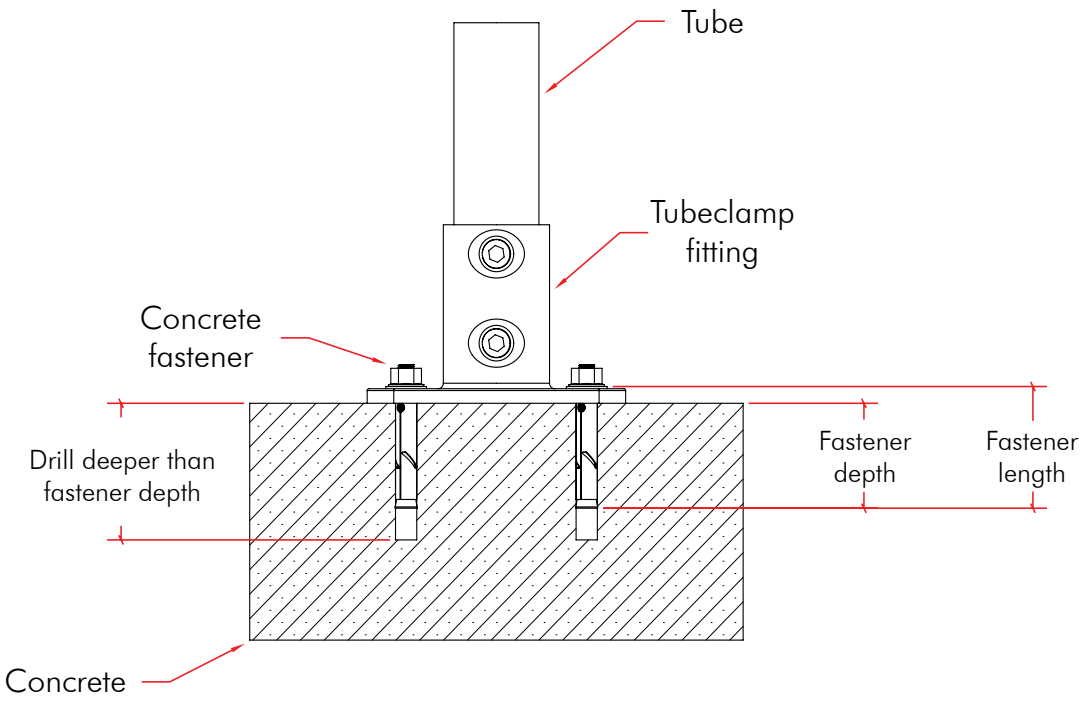


Figure 44 Top mounted base fitting for vertical posts.

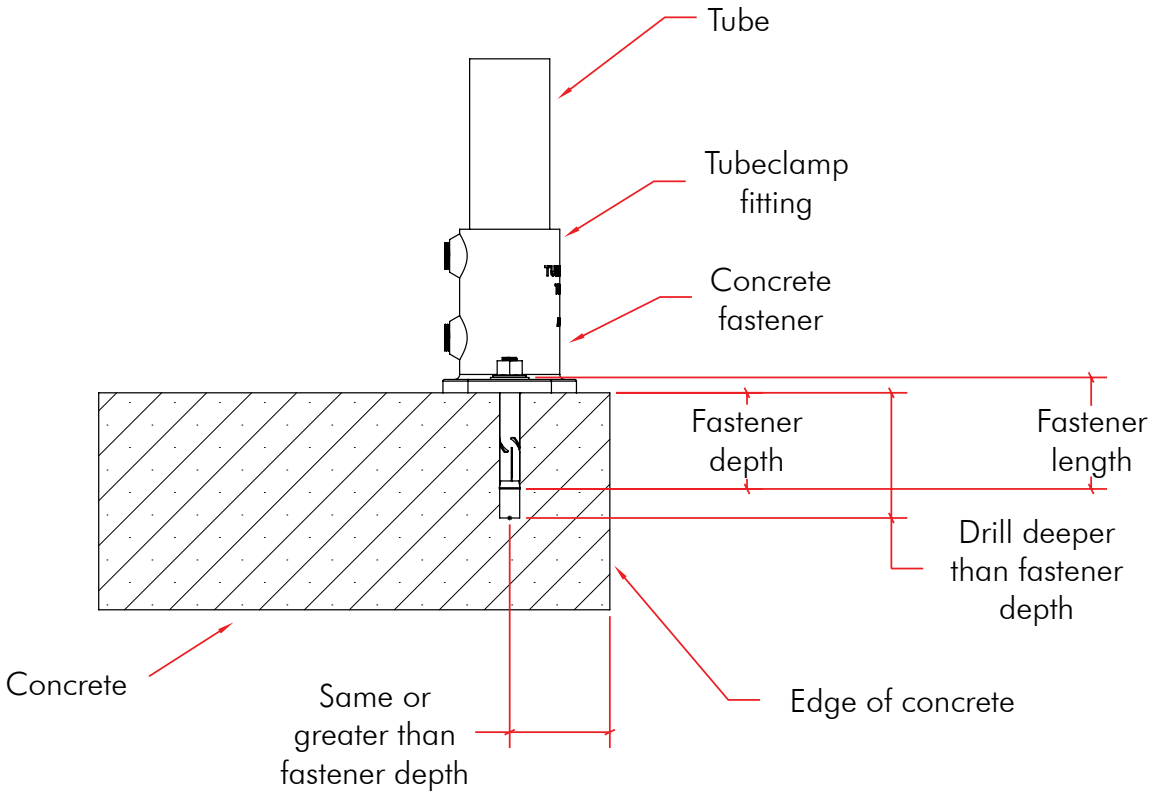


Figure 45 Top mounted base fitting, see fastener data sheets for more details.

When mounting posts into the ground it is recommended to dig a hole that's at least 250mm deep. The deeper the hole the stronger the post. The width of the hole should be more than 150mm wide, to make pouring concrete easier.

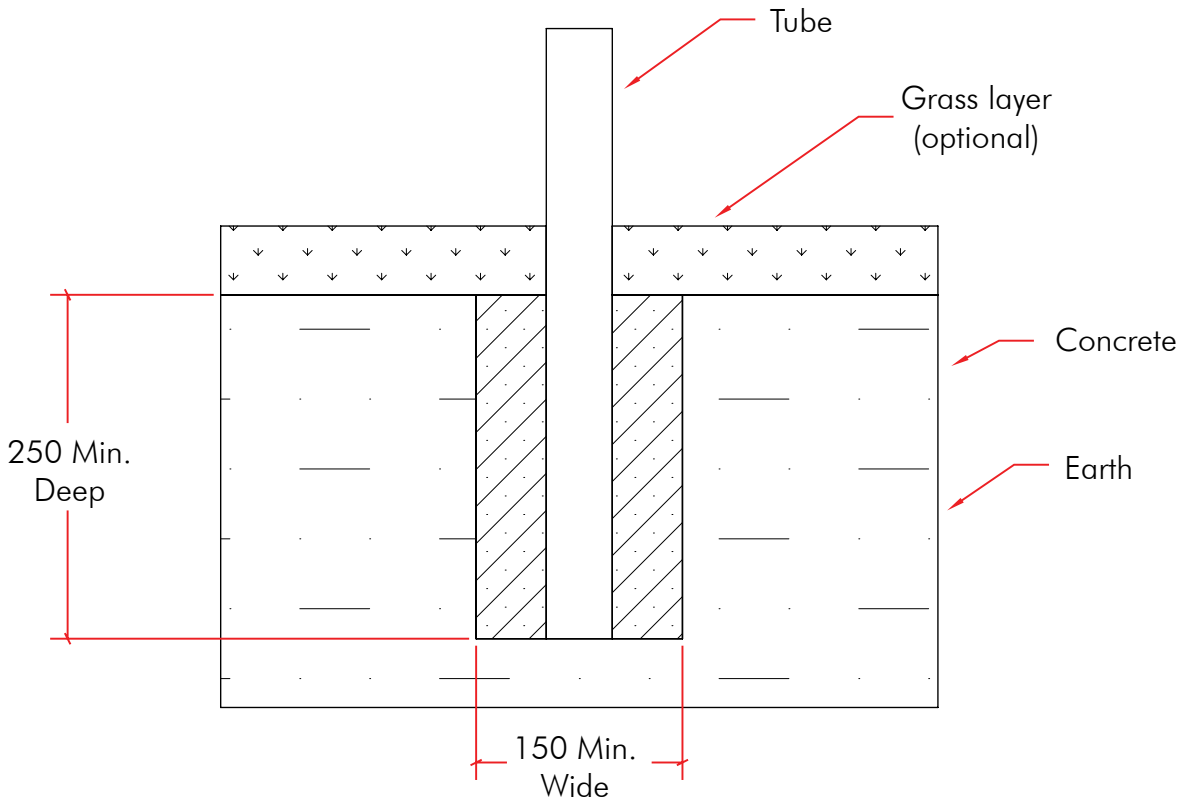


Figure 46 Secure vertical post into ground without using any base fittings.

When mounting base fittings into steel or timber. Ensure that the structure is strong enough to support the handrail and the impacts. Bolts and nuts are typically used however, lag bolts may be used when mounting into solid timbers. For more information consult competent persons.

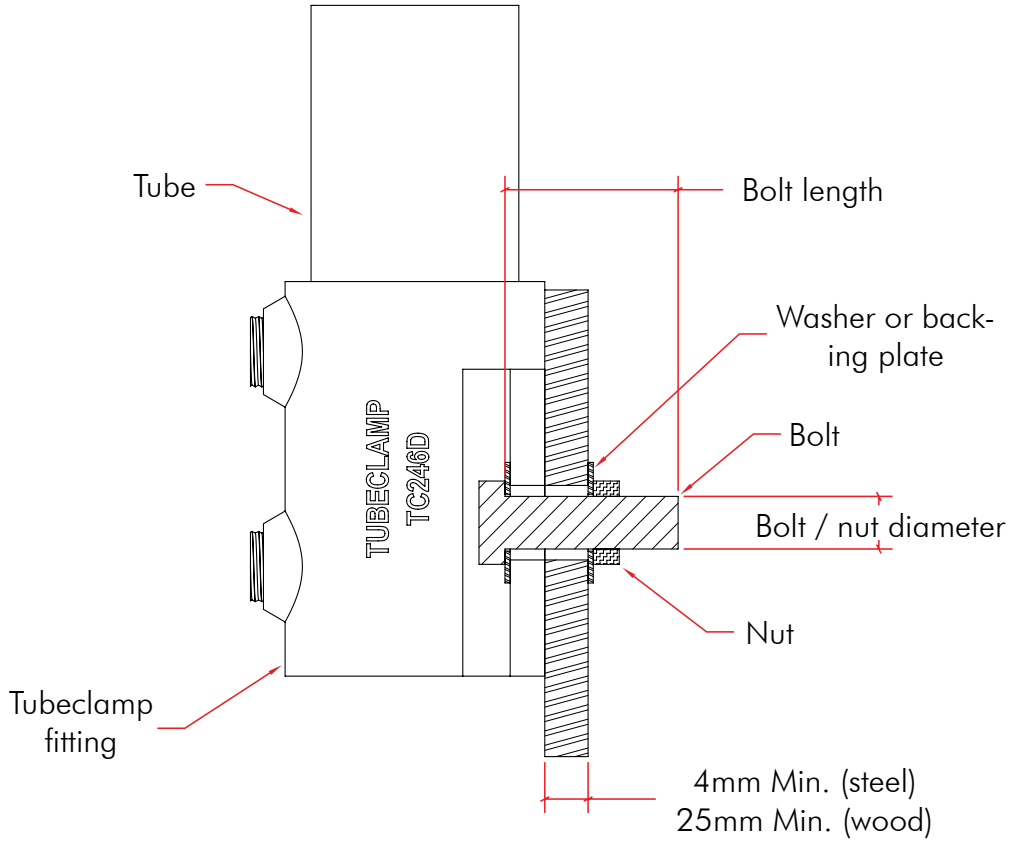


Figure 47 Side mounted fittings using bolts and nuts.

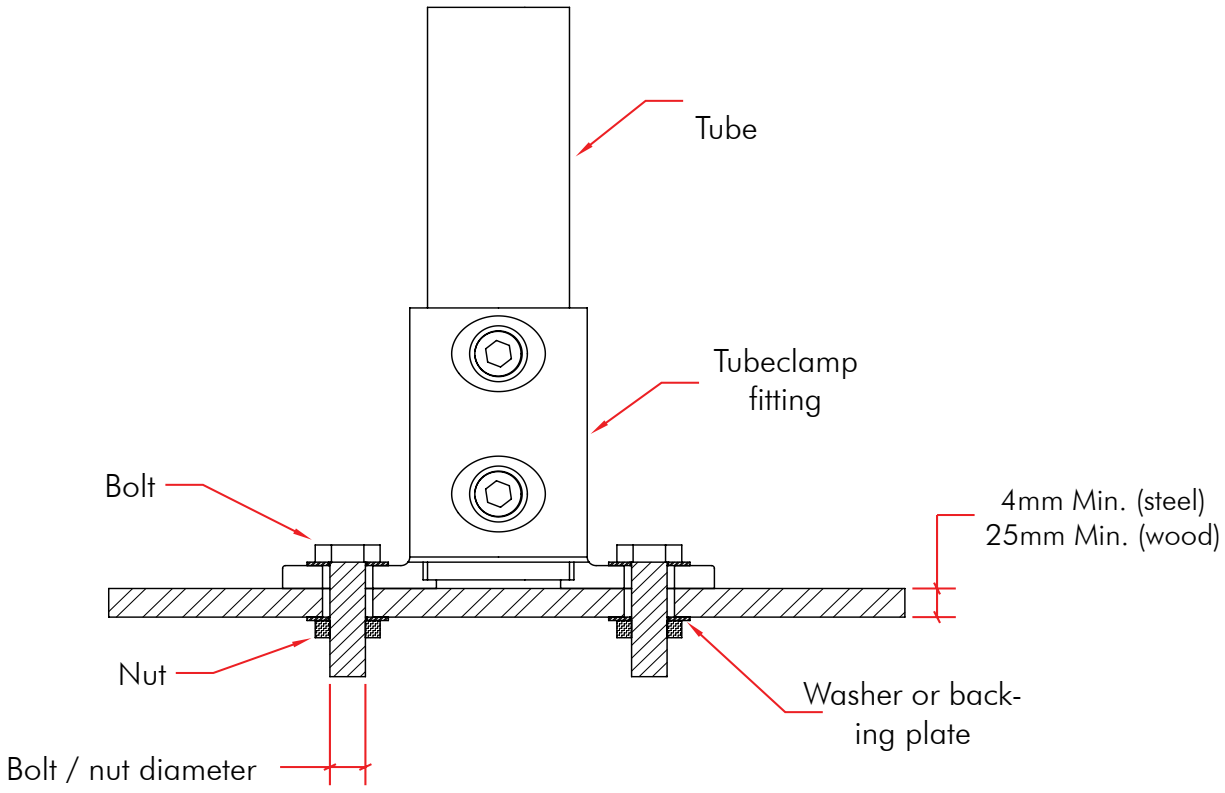


Figure 48 Top mounted fitting using bolts and nuts.

Mounting base fittings into surfaces which are sloping will require the use of straight packers as well as wedged packers. This will give the posts a strong foundation to support the handrail.

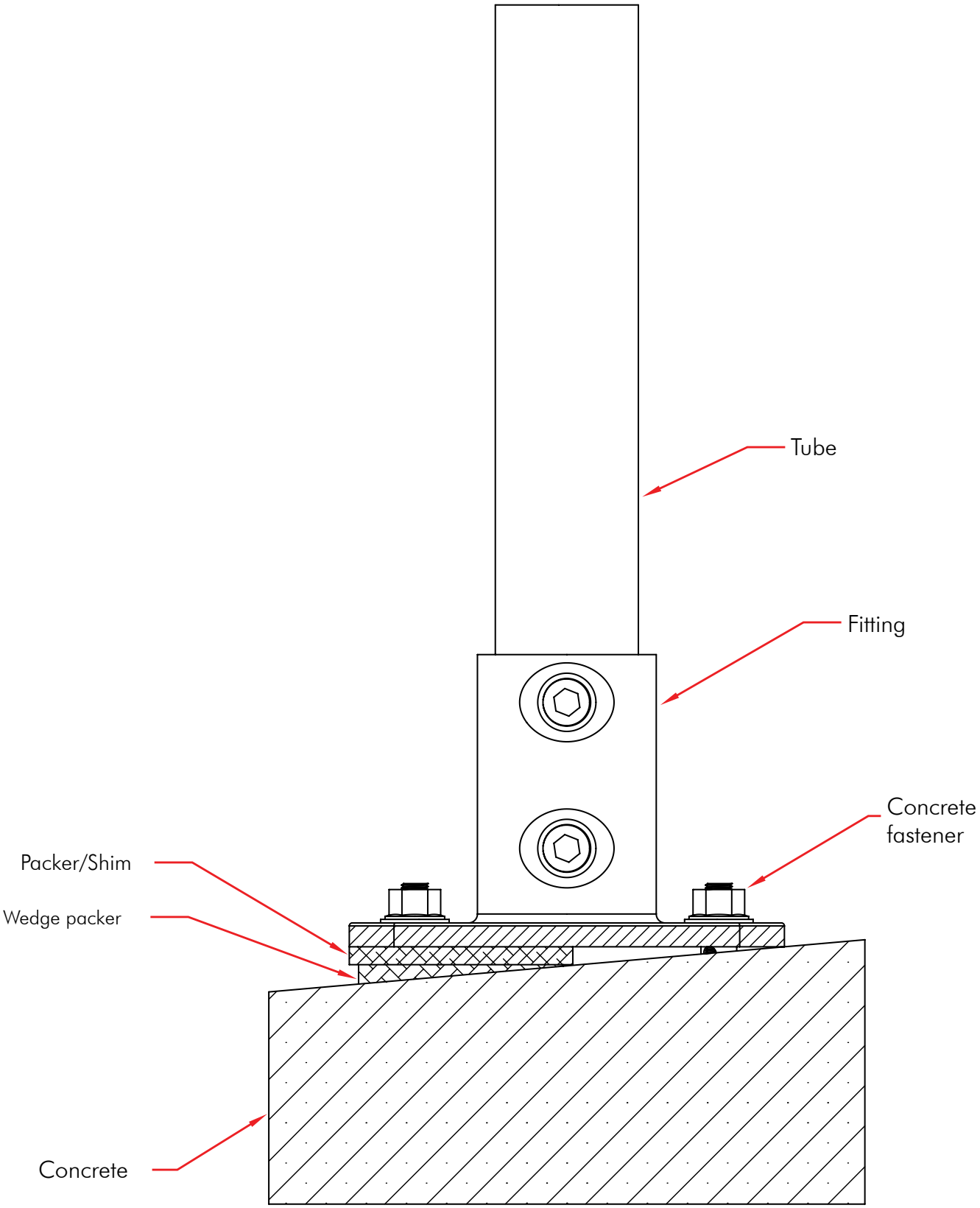
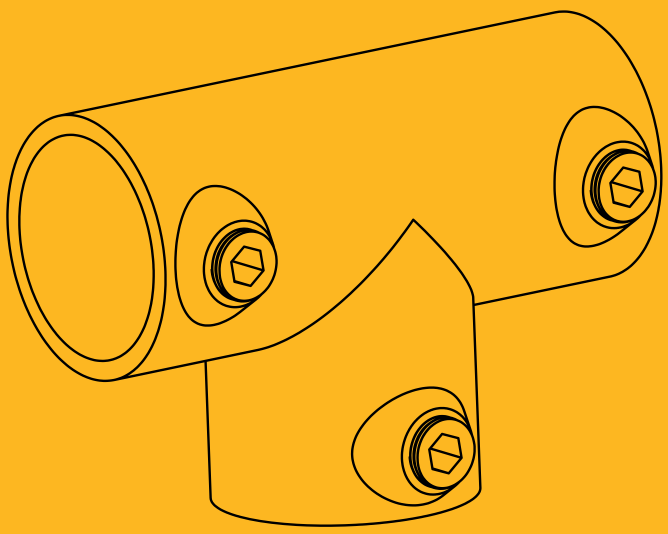


Figure 49 When base fittings are used on ramps or slopes. Packers are required to ensure vertical posts are level.



ADVANTAGES OF USING TUBECLAMP FITTINGS

STRONG

Made from ductile cast iron, our products are built to last. Tubeclamp fittings are capable of holding a maximum of 5,650N (575kg - tested in house). This can be achieved simply by tightening the grub screws using an Allen key. Using such an easy mechanism, everyone can build robust and artistic objects.

MODULAR

Modular structures eliminate design and engineering costs as well as on-site fabrication issues while reducing installation costs. Tubeclamp fittings can be adapted or extended with additional components, and easily adjusted on-site.

NO WELDING

Designed for ease of use, our Tubeclamp fittings are created for the modern construction environment. It combines the benefits of strength and durability without the need of specialised tradesmen, hot work permits, fire spotters, and welding protection to finished surfaces.

SAVE TIME

Our innovative and cost effective system enables any individual the ability to connect and build structurally secure objects without the need for time and labour intensive alternatives.

SUPPORT

From design to installation, you can rest assured, Tubeclamp products are backed with the experience and expertise to find a solution to meet your exact needs.