

# DDA HANDRAIL INSTALLATION GUIDE

Use this **installation guide** to learn how to assemble DDA handrails in a varoius situations.

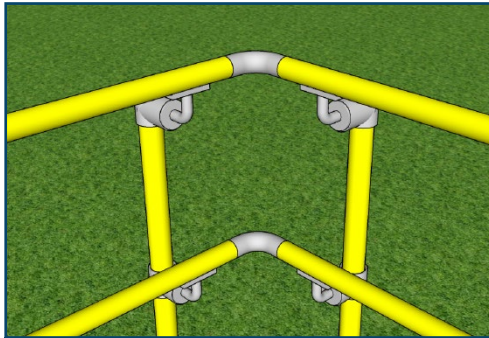
The handrail system that satisfies the requirements of the Disability Discrimination Act (DDA) and Building Regulations Part M.

Our DDA handrail system is specifically designed to give a smooth and continuous handrail with a diameter of 42mm.

Use this guide to learn the basic principles that are involved in assembling a DDA handrail system.

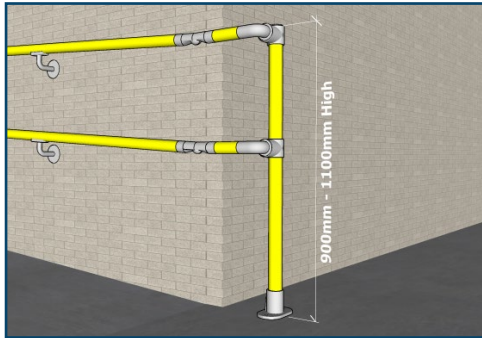


## STANDARD PRINCIPLES



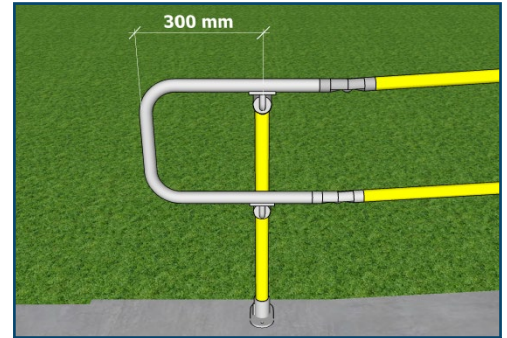
### SMOOTH CONTINUOUS HANDRAIL

Handrails are 42mm diameter and must be **smooth and continuous**, all fittings & connectors must be the same width as the handrail tubes.



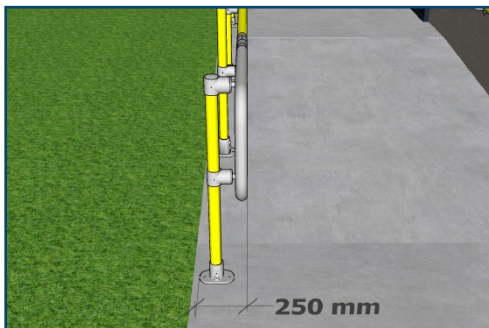
### HANDRAIL HEIGHT

DDA Handrails must be between **900mm - 1100mm high** from the surface of the ramp or steps.



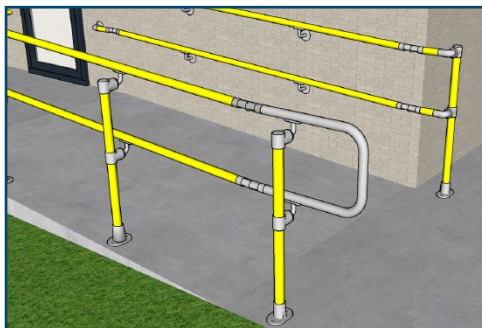
### HANDRAIL EXTENSIONS

Handrail should extend beyond the length of the ramp or steps by **300mm** parallel to the walking surface.



### HANDRAIL WIDTH

If you are fixing with baseplates, the total width from back of the baseplate to the front of the handrail is **250mm**.



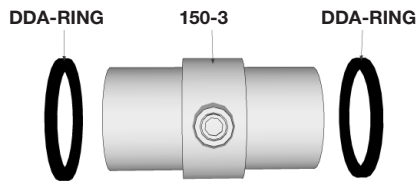
### HANDRAIL ENDS

All ends to the handrail should be rounded and return smoothly into the wall, post or middle rail using DDA-end.

## INSTALLATION GUIDANCE

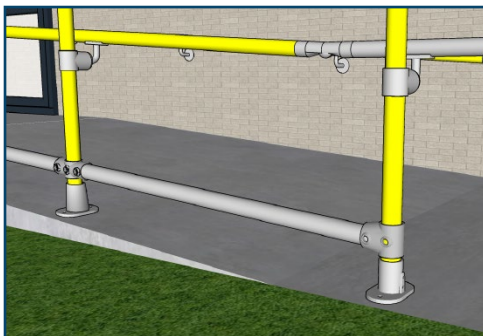
- Handrail posts should be spaced at 1500mm centers maximum.
- Posts are to be offset from the corners and bends in handrail.
- When fixing with baseplates, ensure there is 30mm clearance from the edge of the baseplate to the edge of the surface you are fixing onto.
- Posts can be supplied cut to length, but the handrail tubes would always be cut to length on site.

## OTHER OPTIONS



### 150-3 ASSEMBLY (INTERNAL JOINER)

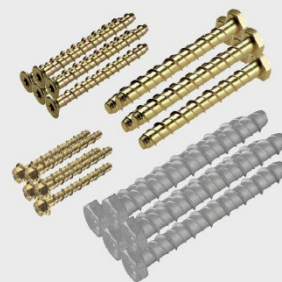
The optional **DDA-Ring** supplied with the 150-3 fitting is a rubber gap washer to ensure the handrail has a smooth, continuous finish to it.



### OPTIONAL KICK RAIL

The optional kick rail is constructed from Size 4 Key Clamp tube & fittings which clamp around the posts.

Get in touch for more detail on this.

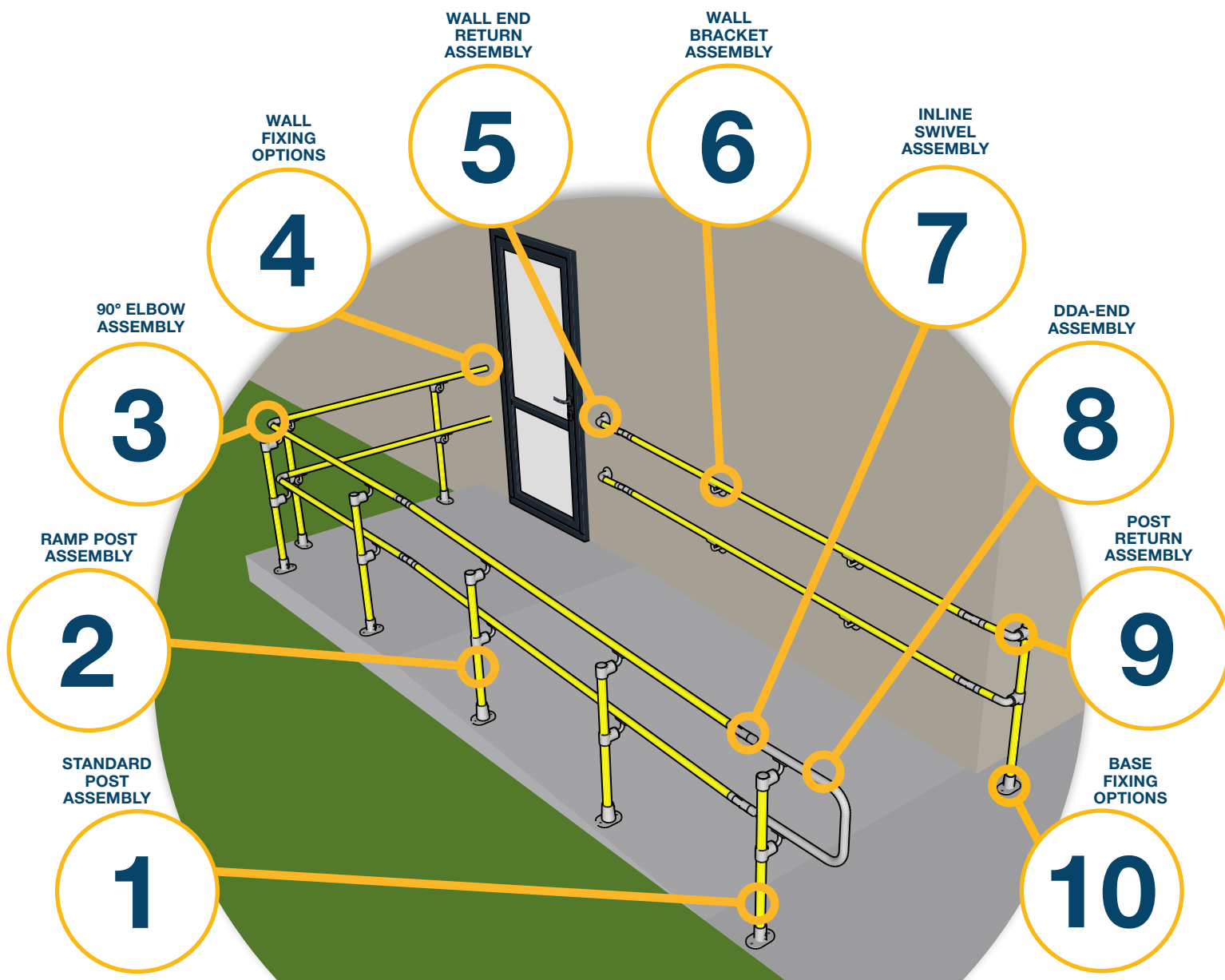


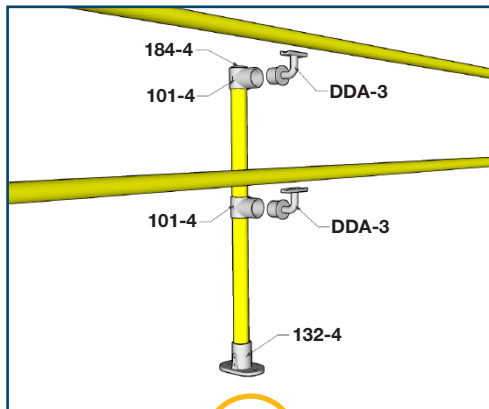
### HANDRAIL FIXINGS

Handrails can be fixed in many ways.

- Screwbolt Fixings for Concrete/Timber Surfaces.
- Resin Anchors for Brick work & Tarmac surfaces.

## DDA HANDRAIL DIAGRAM

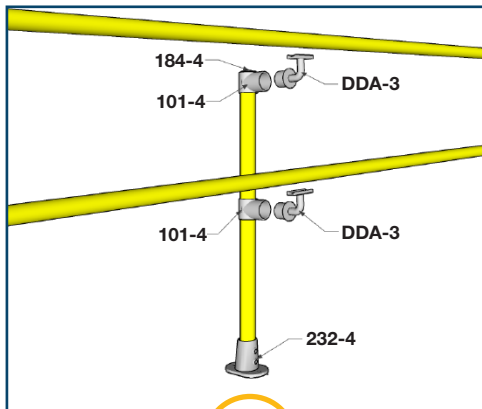




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## STANDARD POST ASSEMBLY

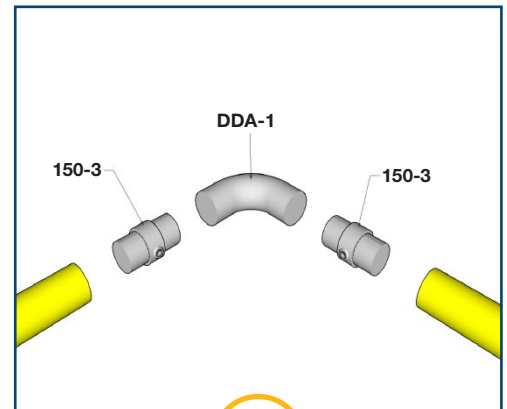
The standard DDA post has a **132-4 baseplate** for mounting to level surfaces. The **DDA-3** fitting is connected into the **101-4** to support the rails. The DDA-3 fixes to the rails using **Tek Screws** as shown below in [diagram A](#).  
(For single rail, only use 1 x DDA-3 & 101-4 fitting on each post.)



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## RAMP POST ASSEMBLY

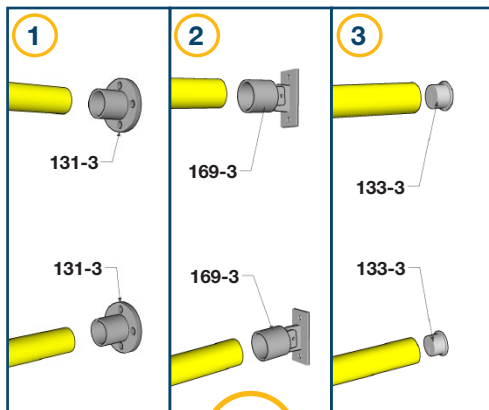
The ramp DDA post has a **232-4 baseplate** for mounting to sloping surfaces between 0 - 11°. The **DDA-3** fitting is connected into the **101-4** to support the rails. The DDA-3 fixes to the rails using **Tek Screws** as shown below in [diagram A](#).  
(For single rail, only use 1 x DDA-3 & 101-4 fitting on each post.)



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## DDA-1 ASSEMBLY (90° ELBOW)

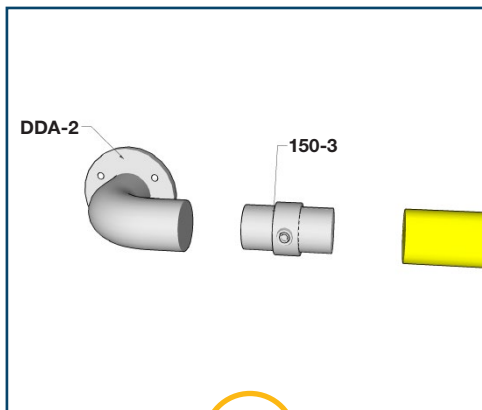
The **DDA-1** fitting is used to make a 90° bend in the handrail. Insert a **150-3** fitting either side of the **DDA-1** fitting and connect the rails.



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## WALL FIXING OPTIONS

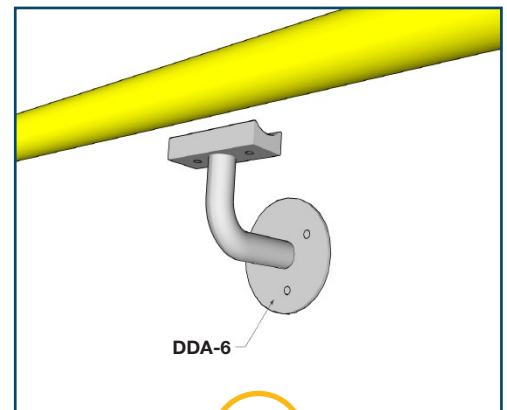
1. Use the **131-3** fitting to fix a level handrail to the wall.
2. Use the **169-3** fitting to fasten a sloping handrail to a wall.
3. If you cannot fix to the building, use the **133-3** to cap the end of the rail and butt them up to the building.



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## DDA-2 ASSEMBLY (WALL END RETURN)

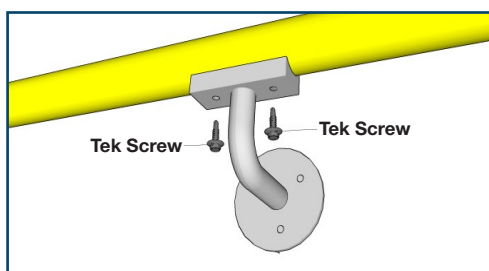
The DDA-2 fitting creates a smooth return for the handrail into a wall. This fitting is usually used on a wall mounted handrail run. Connect the **DDA-2** to the wall using **M6 screwbolts** and connect to the rails using the **150-3** fitting.



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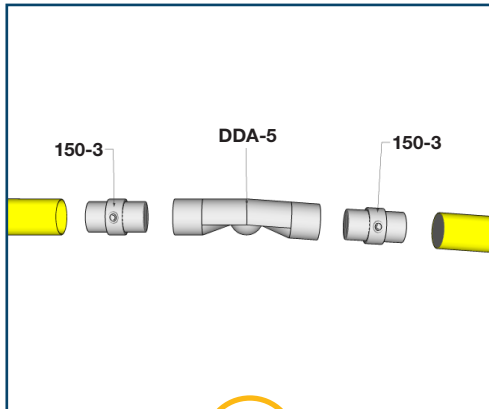
## DDA-6 ASSEMBLY (WALL BRACKET)

The DDA-6 fitting supports the handrail that is being mounted on a wall. Fix the **DDA-6 bracket** to the wall using **M6 screwbolts** and fasten to the rails using **Tek Screws** as shown in [diagram A](#).



## DIAGRAM A - FIXING THE RAILS...

The DDA-3 & DDA-6 fittings are fixed to the rails using No. 12 self-drilling screws (TEK Screws). The screws have a hexagon head and are best fixed using an impact driver.

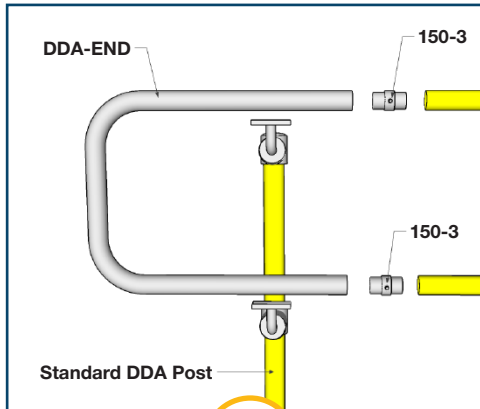


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### DDA-5 ASSEMBLY (INLINE SWIVEL)

DDA-5 fitting is used to produce bends in the handrail.

The small bolt in the middle means the fitting can be tightened to the correct angle. Connect the **DDA-5** fitting to the rails using a **150-3** fitting each side.



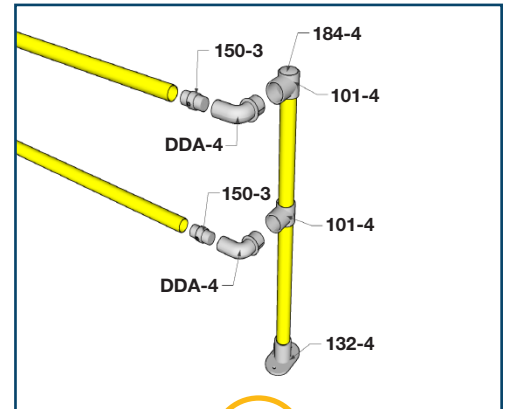
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### DDA-END ASSEMBLY

The **DDA-END** is used to create a smooth return of the handrail from the top rail to the middle rail.

The prefabricated D-end simply connects to the rail using **2 x 150-3** fittings. For best practice, support the D-end with a post as shown above.

If the handrails are on a gradient, use the **DDA-5** fitting to make the D-end level.



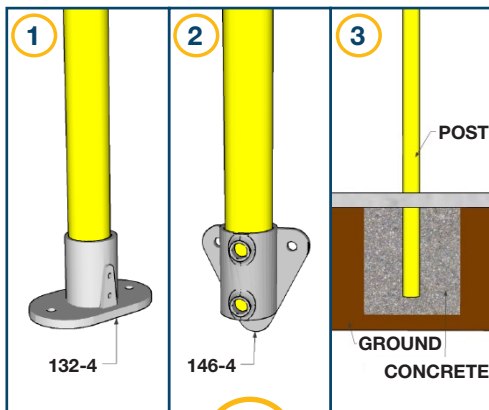
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### DDA-4 ASSEMBLY (POST RETURN)

This fitting is used to make a smooth return for the rails into a post.

Simply join the **DDA-4** fitting to the rails using a **150-3** fitting and insert the other end into the **101-4**.

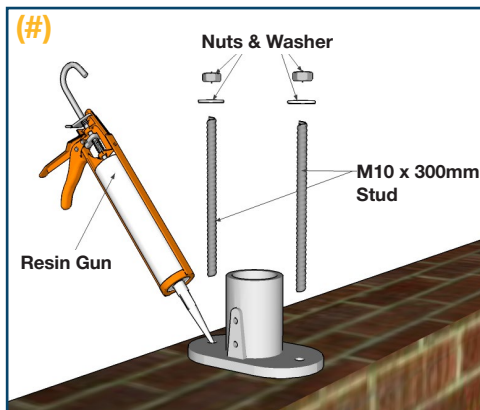
This fitting can be used to end the handrail coming down a ramp, steps or when approaching a wall.



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### BASE FIXING OPTIONS

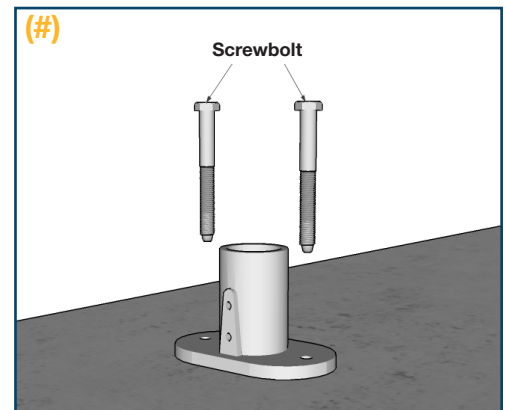
1. Bolt down fixing method. **132-4** fitting is used on level surfaces. **232-4** is used on sloping surfaces between 0 - 11°
2. Side fixing method. **146-4** palm fixing enables the handrail to bolt to the side of a ramp or step.
3. Dig-in fixing method. **Concrete the post into the ground** for a secure fix.



### RESIN ANCHOR FIXING

The 300mm long resin anchors are commonly used to fix the handrail to a brick wall or tarmac surface. Below are a few tips to help with fixing -

- The studs should be **drilled through a mortar joint** on the top soldier course to reduce risk of breaking bricks.
- The holes for the handrail should be **at least 250mm deep**.
- **Always vacuum the hole to remove all dust** before inserting the resin to ensure a strong fix.



### SCREWBOLT FIXING

Screwbolt fixings are commonly used to fasten the handrail into concrete & timber surfaces. Below are a few tips to help with fixing -

- For a strong, secure fix, **remove the dust from the hole with a vacuum** before inserting the fixing.
- Use an **impact driver to tighten the screwbolts** to ensure the base fittings are securely fixed.

## TOOLS

- Ezi Key 3/4/5 Hex Key - (8mm Allen Key)
- Saw to cut metal tubes to length.
- SDS drill if bolting handrails into concrete/brick work.
- Impact driver / Combi drill for fixing Tek Screws.

## OTHER INFORMATION

- View diagrams marked with (#) for fixing guidance.
- 132 & 232 Baseplates use M10 fixings.
- 146 Palm fix fitting use M8 fixings.
- 169 variable wall plate use M8 fixings.
- 131 wall plate use M6 fixings.
- Use No. 12 Tek Screws for fixing DDA-3 & DDA-6.