

sentrel

## INSTALLATION INSTRUCTIONS

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# ALUMINIUM

Balustrade and Pool Fences

Sentrel Australia Pty Ltd

[sentrel.com.au](http://sentrel.com.au)

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## NOTE!

These instructions will guide you through the process for mounting Sentrel Aluminium Balustrade and Pool Fence panels.

We advise that you read through these instructions completely to ensure that you understand the process and achieve the best results. **NOTE:** Please take care handling the powder coat finish and pay special attention to the procedure for using post adhesive.

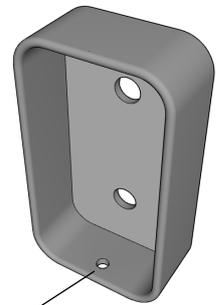
Sentrel will take no responsibility for problems arising from installations that are not in accordance with our instructions.

## FITTING SENTREL BRACKETS TO EXISTING POSTS

□ Brackets must be fixed to the posts with screws suitable for the post material (not supplied).

□ Be sure to position brackets so that the small hole in the short face is to the underside. This hole is for fixing the panels into the brackets. Only the top rail needs to be fixed into the top brackets and sufficient Tek screws are supplied.

□ Installations with handrail have truncated brackets that must be fixed at the top of the posts with the open face upwards.



Small hole must be on the underside

### For Balustrades

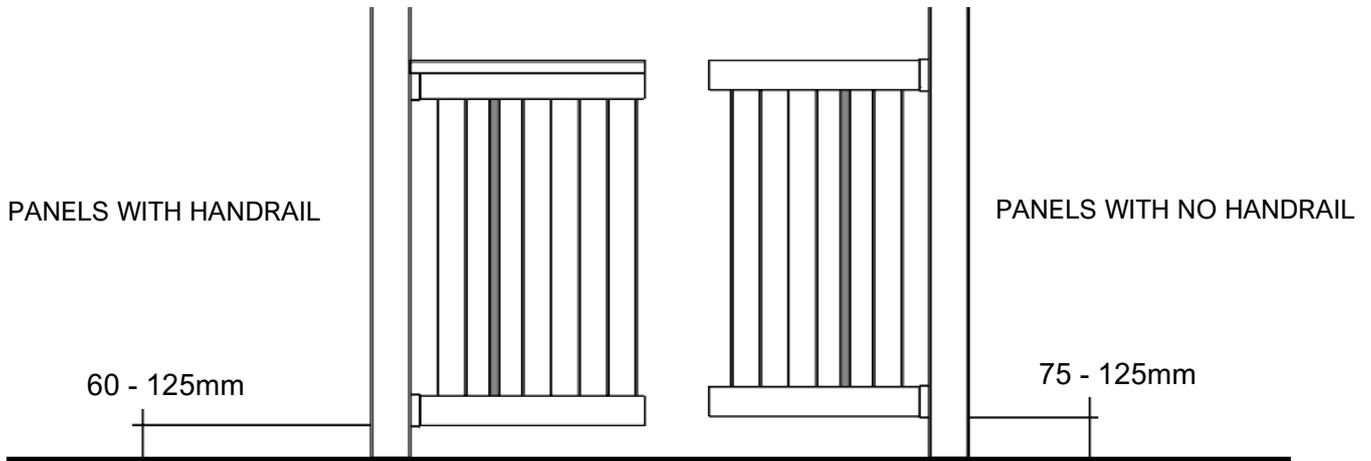
□ Installations with timber or aluminum handrail require the brackets to be fixed so that the gap under the bottom rail is no less than **60mm** and no greater than **125mm**. Failure to do this will mean a non-compliant installation. We recommend a gap of approximately 80mm.

□ Installations with no handrail require the brackets to be fixed so that the gap under the bottom rail is no less than **75mm** and no greater than **125mm**. Failure to do this will mean a non-compliant installation. We recommend a gap of approximately 80mm.

### For Pool Fencing

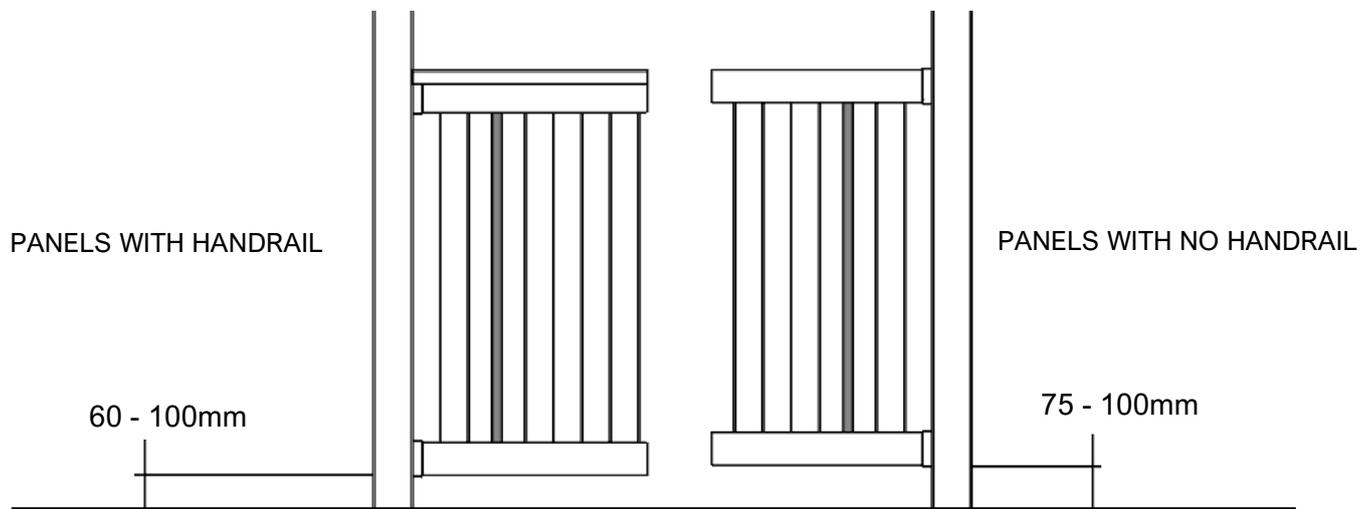
□ Installations with timber or aluminum handrail require the brackets to be fixed so that the gap under the bottom rail is no less than **60mm** and no greater than **100mm**. Failure to do this will mean a non-compliant installation. We recommend a gap of approximately 80mm.

□ Installations with no handrail require the brackets to be fixed so that the gap under the bottom rail is no less than **75mm** and no greater than **100mm**. Failure to do this will mean a non-compliant installation. We recommend a gap of approximately 80mm.



**Positioning brackets on existing posts — Balustrade**

NOTE: Finished panel height will vary from approx. 1000 - 1060mm according to gap under bottom rail



**Positioning brackets on existing posts — Pool fence**

NOTE: Finished panel height will vary from approx. 1200 - 1260mm according to gap under bottom rail

## FITTING SENTREL POSTS

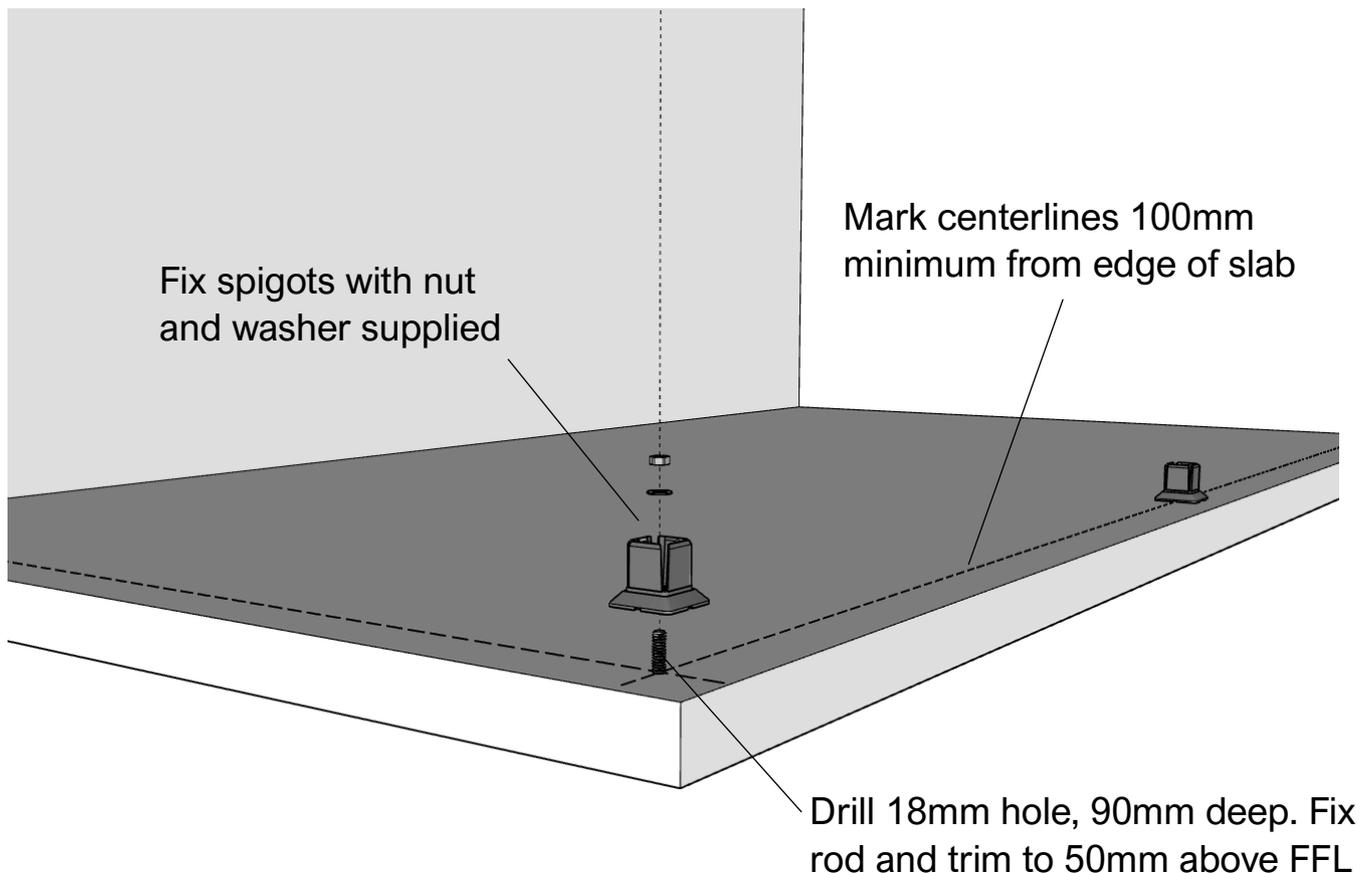
Sentrel posts are adhered with an anaerobic adhesive (Chemtools 8680 Retaining Compound—supplied) to special spigots. The spigots must be positioned strictly in accordance with the layout drawing.

### Fixing Posts to a Concrete Slab

- Mark a centreline along the run where post spigots are to be placed.
- Mark the spigot placement along the centreline as indicated in the layout drawing.
- Drill **18mm** holes, **90mm** deep into the slab. **NOTE:** Ensure that the holes are drilled a minimum of **100mm** from the edge of the slab.
- Fix the 16mm threaded rod (supplied) into the holes with an appropriate anchoring adhesive, eg. Ramset Chemset 101 (not supplied) in accordance with the product directions.

**NOTE:** Ensure that all holes are cleaned out thoroughly after drilling, and remove ALL excess adhesive extruding from threaded rod/ hole after gluing. Failure to do this will result in a loose/unstable spigot mounting that will not comply with building standards.

- Trim threaded rods to **50mm** above Finished Floor Level (FFL).



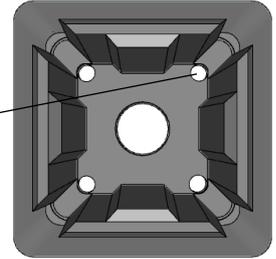
- Place spigots over rods, and secure with washers and nuts to torque of 90 Nm. Ensure that all spigots are positioned square to the job and sitting firmly on the slab.

## Fixing Posts to a Timber Deck

□ Ensure that the spigots are laid out in the correct position in accordance with the layout drawing.

□ It may be possible to fix the spigots to a joist below with a **16mm** coach screw or similar (not supplied). Otherwise, use the four fixing holes in the spigot and screw to deck with a minimum of **10 gauge** galvanized screws (not supplied).

Fixing holes



□ Decking boards must be made structurally suitable for mounting the spigots. It will be necessary to reinforce them from the underside by gluing blocks across several decking boards. Failure to do so may lead to lateral movement of the post.

## FIXING POSTS TO SPIGOTS

□ Ensure that you have everything required to fit and plumb the post before beginning (i.e. mallet, timber block & level).

□ With a string line or otherwise, establish levels at each spigot. Note the variation, and choose the lowest point as a reference. If required, trim the **BOTTOM** of the posts accordingly to bring top of posts level. **NOTE:** This is a fine tune only. No more than **15mm** can be removed from the bottom of any one post. If level differences are greater than this amount, other means will be required to compensate for the differences.

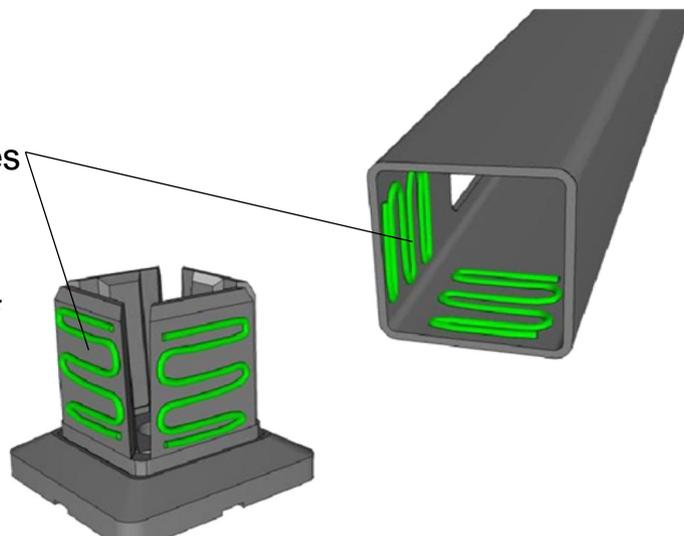
□ Apply the retaining compound. **NOTE:** Ensure that you fully understand the application process of this compound **BEFORE** attempting to adhere the posts.

□ Clean outside faces of spigot, and inside faces of post with methylated spirits or acetone.

□ Apply compound on all spigot faces **AND** inside of post. Spread with finger (in glove) or paddle pop stick or similar to ensure all faces have been covered entirely with a thin film of solution. **THIS IS EXTREMELY IMPORTANT.** Failure to apply the compound correctly may result in an unsafe or non-compliant

Apply compound to outside faces of the spigot and inside faces of the post.

Spread to ensure a complete coverage of adhesive

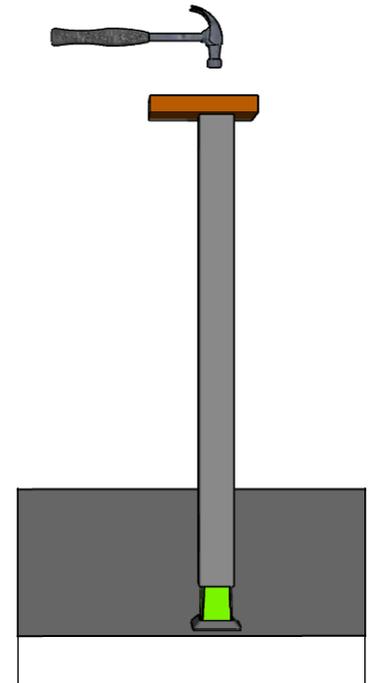


installation.

□ Posts are then fitted by knocking down with a hammer and soft block until firmly sitting on flange of spigot. **NOTE:** The retaining compound will not begin to cure until contact is made between the metal surfaces.

□ Immediately the post comes into contact with the spigot, the bonding process has begun. You will only have a minute to knock the post down fully into position, and bring to plumb. Work as fast and as accurately as possible, as best results are obtained when glue joint is made quickly.

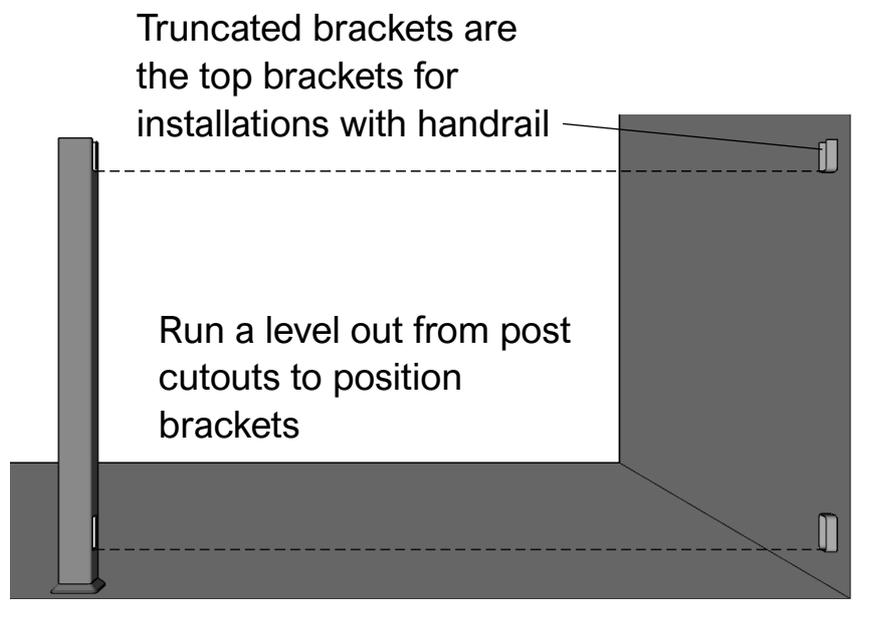
□ Hold the post in plumb position (if necessary) for **5 - 10 minutes**. The compound will have grabbed sufficiently to hold the post in place. The bond will be strong enough to continue work after an hour, but will increase to maximum strength over a period of a week. Ensure no undue force is exerted on the post in this period.



□ The retaining compound will only cure in the *absence* of air. Therefore excess solution can be wiped off easily with a rag at any time. No solvents are required.

## **FITTING WALL BRACKETS** (when used in combination with Sentrel posts)

□ Run a level out from the cut outs in the posts to the walls and/or existing posts in order to locate the position of the brackets .



□ If your installation includes top handrail, position the truncated brackets as the top brackets with the open face upwards.

□ Ensure that the small hole in the short wall of the bracket is located at the bottom. Fix the brackets securely with appropriate screws (not supplied).

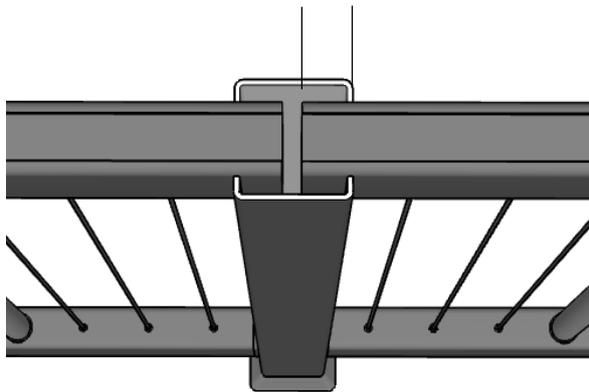
## FITTING PANELS

Panels are made to exact lengths and no trimming is required under normal circumstances. However if it becomes necessary to shorten any of the panels, trim with a sharp tungsten carbide blade on a drop saw.

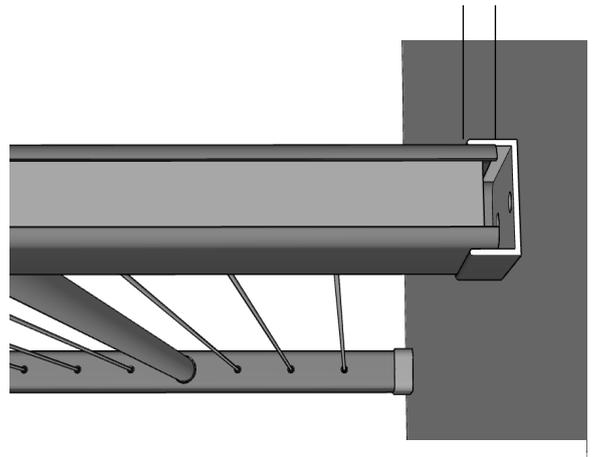
□ Install panels as per the layout drawing by pushing one end all the way into a post/bracket, then sliding it back so that the panel sits evenly in position.

□ Panels are supplied so that when properly installed the rail ends penetrate posts by 25 - 30mm each end, and fully into the brackets.

25 - 30mm into Sentrel posts



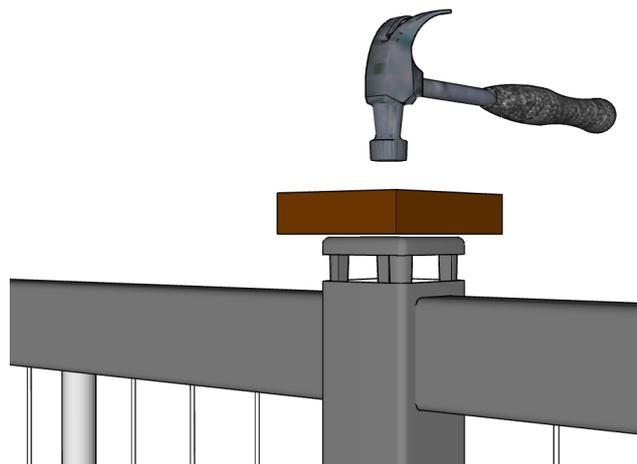
13mm into Sentrel brackets



## FITTING POST CAPS (for installations with no handrail)

□ Ensure that all panels are fitted correctly and penetrate the posts equally.

□ Position and knock down post caps with a soft block and hammer. The fins on the post cap will secure the rails into the posts.

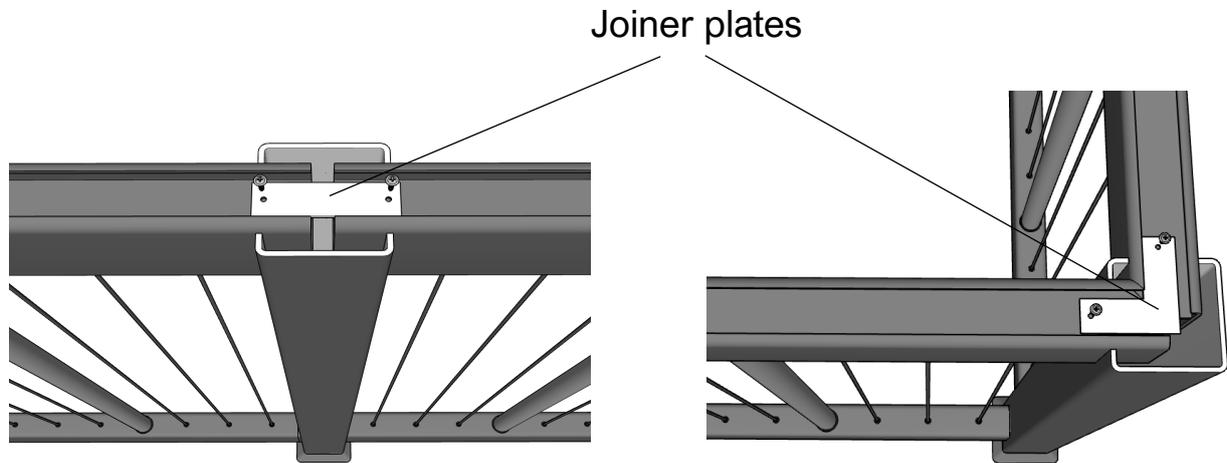


□ If panels mount to walls or existing posts, fix the top rail of the panel to the top bracket through the hole in the base of the bracket with the Tek screws provided.

□ The installation is now complete.

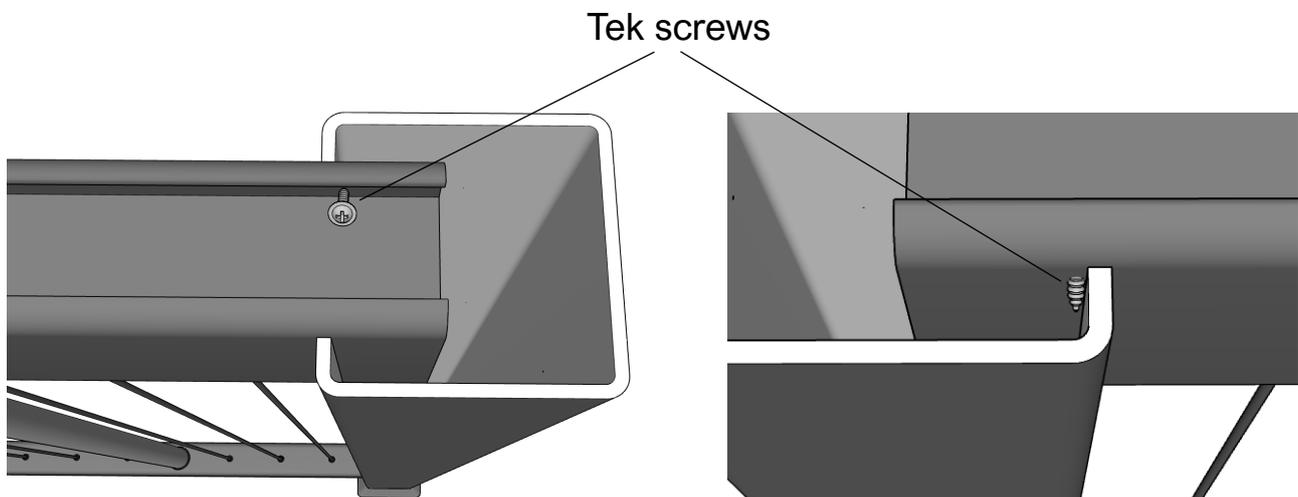
## PREPARING FOR HANDRAIL

□ Lock all panels in place with the joiner plates and screws provided. **NOTE:** Make sure that the correct panels are fitted to corresponding openings. Make sure that panels running between Sentrel brackets (fitted to existing posts/walls) and Sentrel posts are oriented correctly. Cable configuration is offset on these panels and will be marked accordingly.



□ To prevent panels from slipping out of end posts, use the Tek screws (supplied).

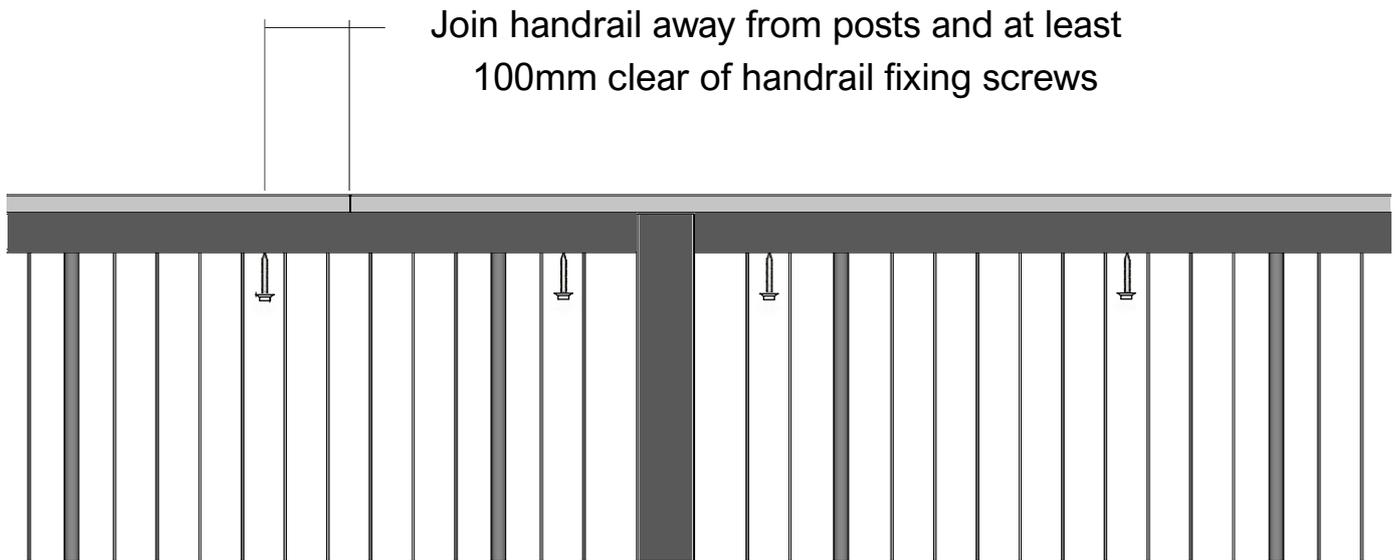
□ Skew-screw through as shown, and be sure that the screws are positioned to sit against the inside face of the posts.



## FITTING TIMBER HANDRAIL

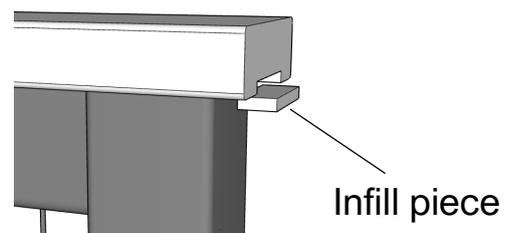
□ Using the handrail lengths supplied, cut and fit them to the top rail of the balustrade. Biscuit joints and adhesive (Bostik AV 515 or similar) are recommended where handrail joins occur. **NOTE:** The Sentrel system has been designed to be most structurally sound when handrail joins **DO NOT** occur over the top of the posts. Joins must be at least **100mm** clear of any handrail mounting screws.

□ Fix handrail in place with Hex Head screws (supplied) through the pre-drilled holes in the underside of the top rail. **NOTE:** To avoid splitting, it is imperative to drill a pilot hole and screw the batten screws in gently.



□ Glue infill pieces (supplied) to fill in handrail channel where required.

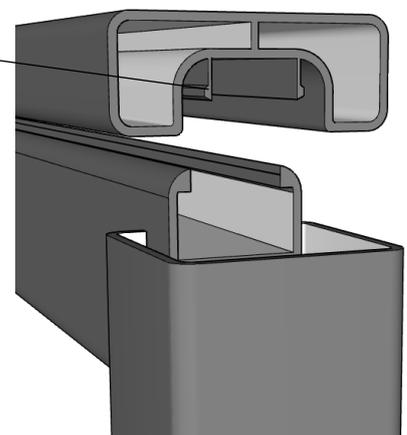
□ Allow glue to set (about 1 hour, more is better). Trim off excess and sand if necessary.



## FITTING ALUMINIUM HANDRAIL

Sentrel aluminium handrail simply clips to the top rail of the panels. Lengths can be cut with a quality tungsten carbide blade on a drop saw. Care must be taken with all cuts as there is no provision for filling joints. Accuracy is paramount for a neat installation.

Handrail clips onto top rail of panel



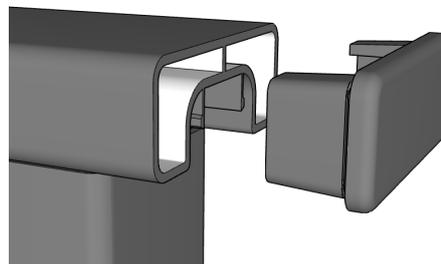
□ Cut and fit mitre joins first.

□ Knock in place with hammer and wooden block, taking care not to damage the painted finish.

□ Cut and fit the remaining lengths. Use an appropriate colour touch up paint or a little coloured silicon to finish between the joins. If using spray paint, ensure that you mask the outer surfaces of the handrail to avoid overspray .

□ On short runs—especially on freestanding panels where handrail does not finish to a wall—it may be necessary to apply a small amount of silicon on the underside of the handrail before assembly to help prevent it moving. This will also be necessary on handrail fitted to stair panels.

□ Fit handrail end-caps if required— simply knock in with timber block and hammer.

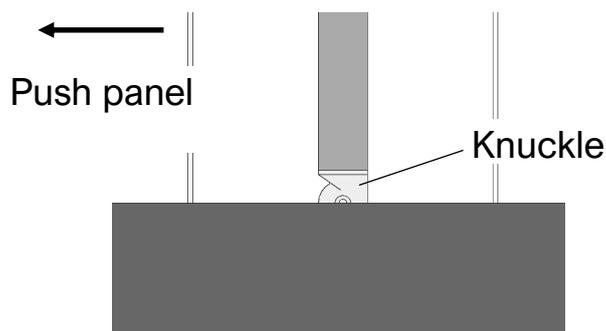


## INSTRUCTIONS FOR FITTING STAIR PANELS

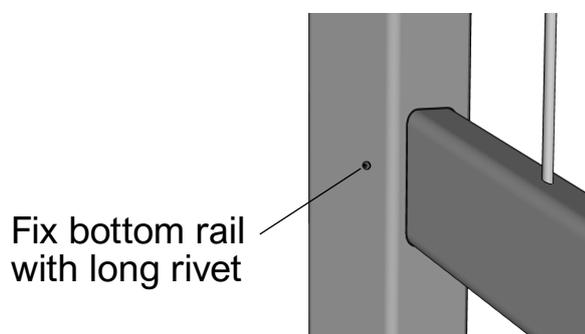
Stair panels are supplied straight and have flexible knuckles that allow the panel to be pushed to the exact angle. Be sure that stair mounting posts have been positioned exactly in accordance with the layout drawing. For fixing stair mounting brackets follow the same procedure described for straight panels.

□ Push the panel to the correct angle of the stairs. Be sure to push the panel in the direction that the knuckles allow.

□ Fit panels following the same procedure described for straight panels.



□ Using the long rivets supplied, fix bottom rail to post/bracket at either end.



## FINISHING UP

□ Clean down stainless steel poles with a suitable cleaner – White Spirit is ideal. Apply a suitable protectant if the balustrade is in a aggressive environment (eg. near the ocean).

□ If you have installed a gate with hinges supplied by us, please note that these hinges are ADJUSTABLE. Set to the lowest setting possible so that the gate closes positively but without slamming.