

# sentrel

## INSTALLATION INSTRUCTIONS

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# TIMBER

Balustrade and Pool Fences

Sentrel Australia Pty Ltd

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

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## NOTE!

These instructions assume basic building knowledge and fine craftsmanship, and that posts are in position, square and plumb. If posts supplied by Sentrel are to be fixed to concrete, or if fitting panels to steel posts, please see Appendix A & B at the end of this manual.

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

These instructions will guide you through the process for mounting Sentrel Timber Balustrade and Pool Fence panels. **NOTE:** Pool fence installations in Western Australia and Northern Territory differ and will be noted in *italics*. We advise that you read through these instructions completely to ensure that you understand the process and achieve the best results. You can view an installation video on our website, [sentrel.com.au/videos](http://sentrel.com.au/videos)

## TOOLS REQUIRED OTHER THAN STANDARD KIT

- ½ inch (12.7mm) dowel drill
- Bostik AV 515 adhesive (or similar moisture cure polyurethane adhesive)
- Biscuit joiner and biscuits
- 17mm socket and ratchet
- Stainless steel cleaner

## PREPARING POSTS

### Balustrades

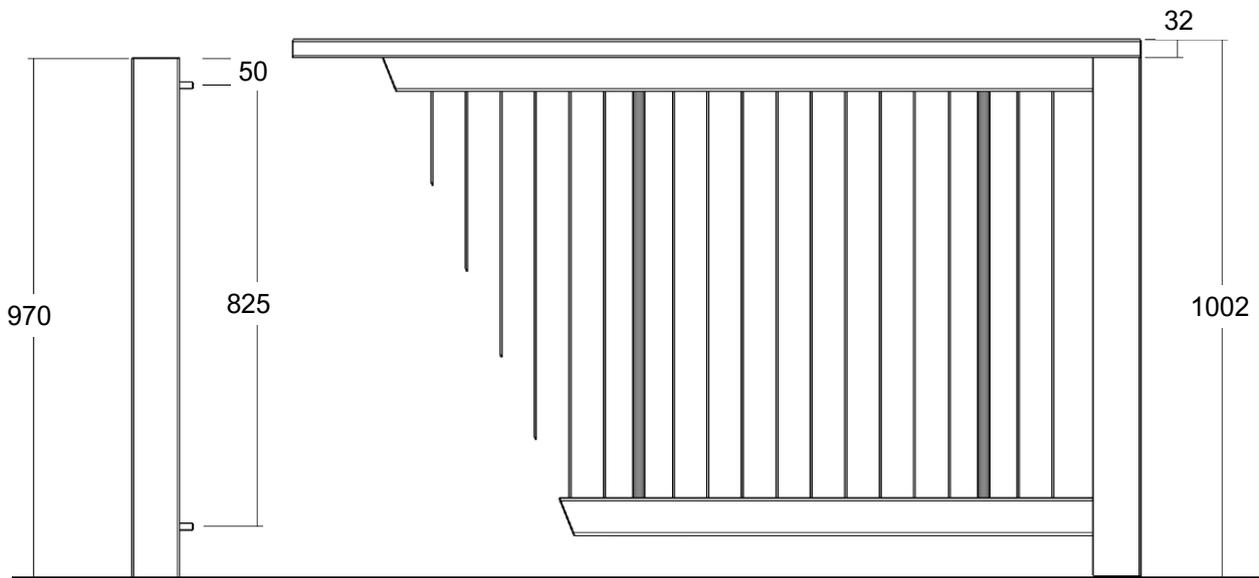
- If handrail is to go **between** the posts, the posts must finish no less than **1010mm** above Finished Floor Level (FFL). If handrail is to run **over the top** of posts, posts must finish at **970mm** above FFL.
- Run a string line along the posts at **920mm** to determine the top pin position (50mm below the 970mm post height), and mark off the string in the centre of each post.
- Measure down 825mm and mark the bottom pin position. See **Diagram (opposite page)**.

**NOTE:** If retrofitting to existing handrail, there is no requirement for the top pin.

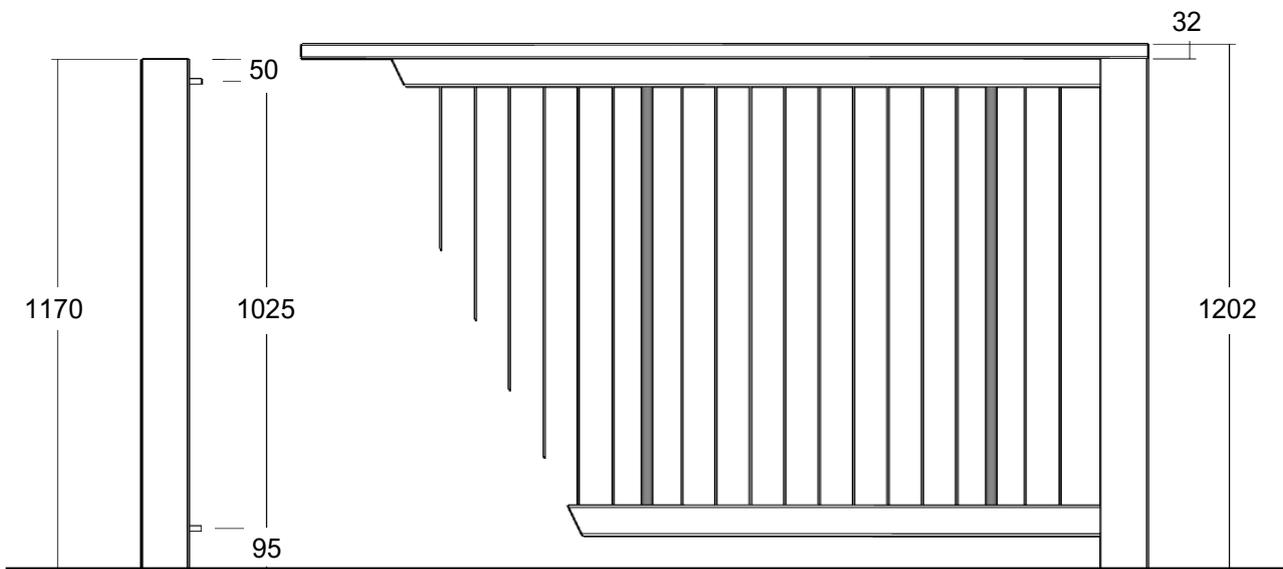
### Pool Fencing

- If handrail is to go **between** the posts, the posts must finish no less than **1210mm** above the FFL. If handrail is to run **over the top** of posts, posts must finish **1170mm** above FFL.
- Run a string line along the posts at **1120mm** to determine the top pin position (50mm below the 1170mm post height), and mark off the string in the centre of each post.
- Measure down 1025mm and mark the bottom pin position. See **Diagram (opposite page)**.

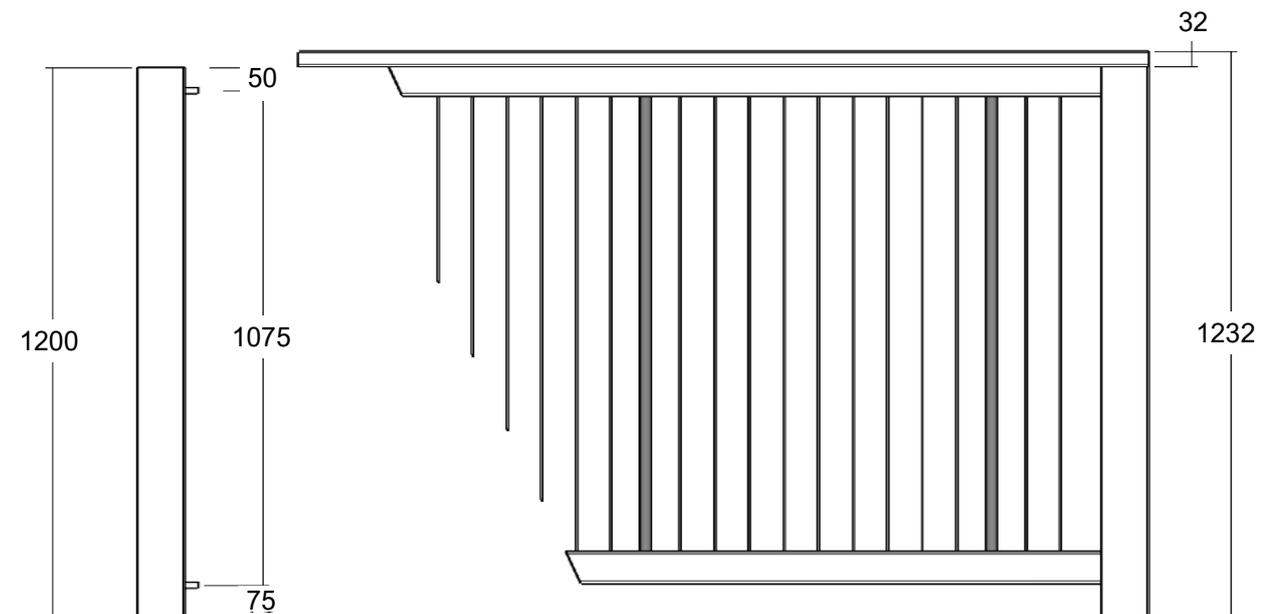
**NOTE:** Panels for **Western Australia & Northern Territory** are supplied 50mm taller than standard panels in order to comply with regulations (minimum 1100mm between horizontal members). Therefore the distance between the mounting pins is **1075mm**. Posts will need to finish at **1200mm** (30mm higher) above FFL, and the bottom pin will be 20mm lower.



Balustrade dimensions and pin placement



Pool fence dimensions and pin placement

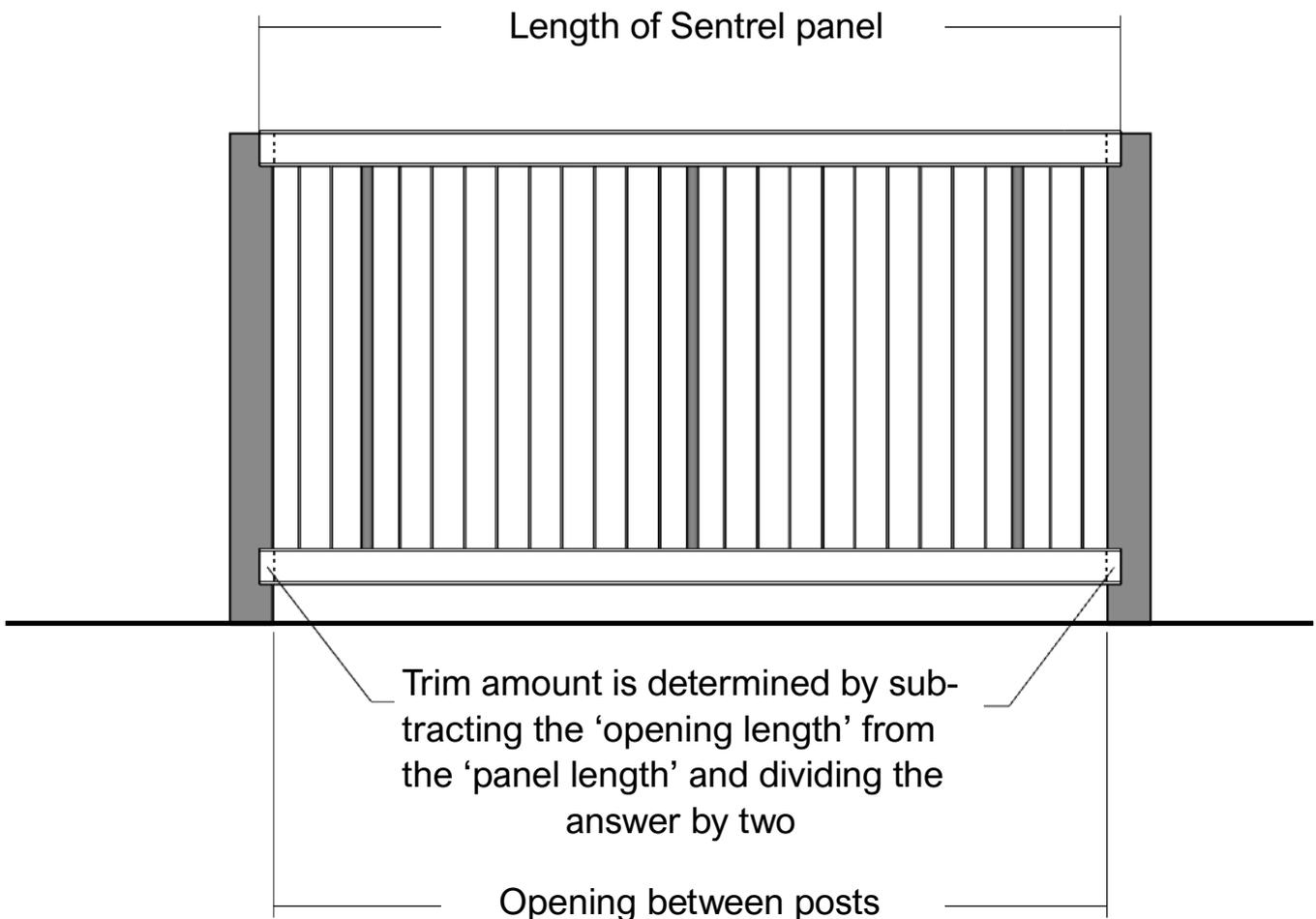


Pool fence dimensions and pin placement  
for Western Australia and Northern Territory

- Using a ½ inch (12.7mm) dowel drill, drill holes square to the post face 20 - 30mm deep.
- Hammer the mounting pins (supplied) into the holes. The pins will be a firm fit. It is recommended that the correct hole size is drilled—holes less than 12.7mm may cause the post to split and holes greater than 12.7mm will mean that pins are loose. Adhesive would then be required at the installers own risk.

## MOUNTING PANELS

- Match the panels to the corresponding gaps between the posts. Panels will vary between 1 - 64 mm longer than the opening sizes they suit.
- Measure the opening between the posts accurately.
- Measure the panel length accurately.
- Subtract the opening measurement from the panel measurement, and divide the answer by two to give the trim amount at each end. Mark this distance and cut using a drop saw. **See Diagram below.**



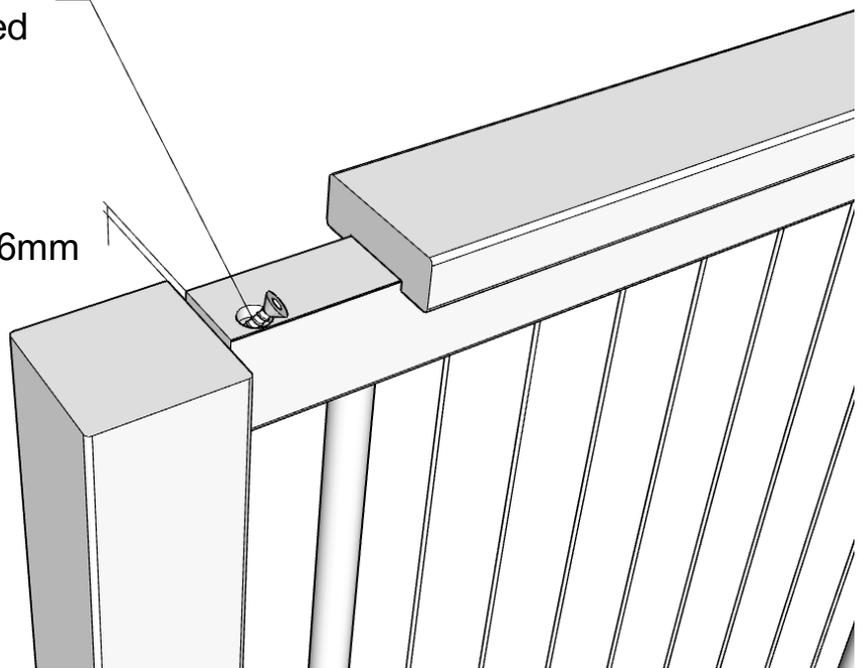
- Place the panels between the posts, over and onto the pins. Gently tap with a hammer into position so that the top pins sit hard against the mounting slots in the top rails. If all posts are straight and firm, no further fixing of the panels is required.

□ If any of the posts are out of plumb, or if greater structural integrity is required, fixing the top rail of the panel to the post can help. Skew-screw with a **75mm** batten screw. **NOTE:** The top of the top rail must remain **5 - 6mm** above the top of the post or string mark to ensure that the Sentrel handrail fits correctly. Screws must be offset from centreline of rail otherwise they will hit the mounting pin. **See Diagram below.**

**NOTE:** Always mount one panel first to check that all pin placements are correct before drilling the remaining holes.

75mm batten screw offset  
and skew-screwed if required

5 - 6mm



□ Repeat the installation process for all remaining panels.

□ **NOTE: NEVER FIX THE BOTTOM RAIL WITH SCREWS.** The bottom rail must be able to 'float' to allow for re-tensioning of the cables over time if necessary. See the 'How to re-tension Timber Panels' video on our website, [sentrel.com.au/videos](http://sentrel.com.au/videos)

## **FITTING THE HANDRAIL**

□ Check that the top line of the balustrade is straight and level. If not, make good before fixing handrails.

**If handrail runs between posts:**

□ Measure the gap and cut the handrails to length.

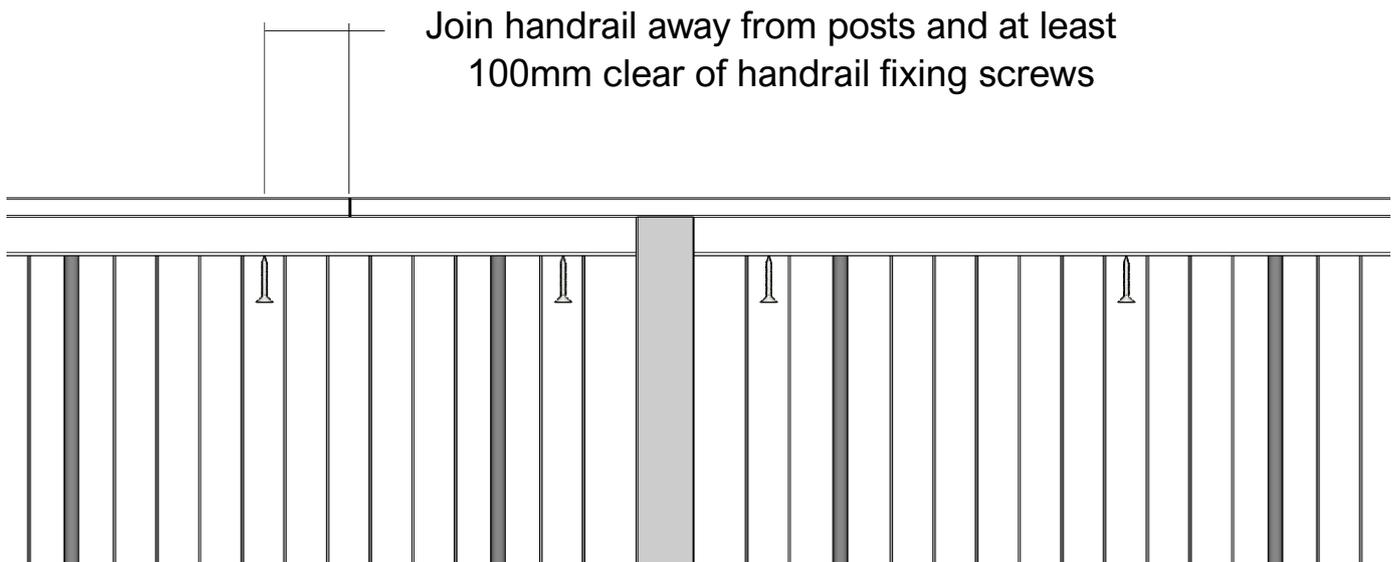
□ Fix in place with batten screws (supplied) through the pre-drilled holes in the underside of the top rail. **NOTE:** To avoid splitting, it is imperative to drill a **5mm** pilot hole and screw the batten screws in gently.

**If handrail runs over the top of posts:**

□ Make sure that all the posts are pulled in tight against the panel rail ends. This can be achieved with a ratchet strap.

- The top of the top panel rail will sit **5 - 6mm** above the top of the posts. This allows the handrail—which has a channel on the underside—to sit over the top rail and neatly onto the top of the mounting posts. If this measurement is higher or lower, adjust accordingly.
- 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 joins **DO NOT** occur over the top of the posts. Joins must be at least **100mm** clear of any handrail mounting screws. **See Diagram below.**



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

## CHECKING CABLE TENSION

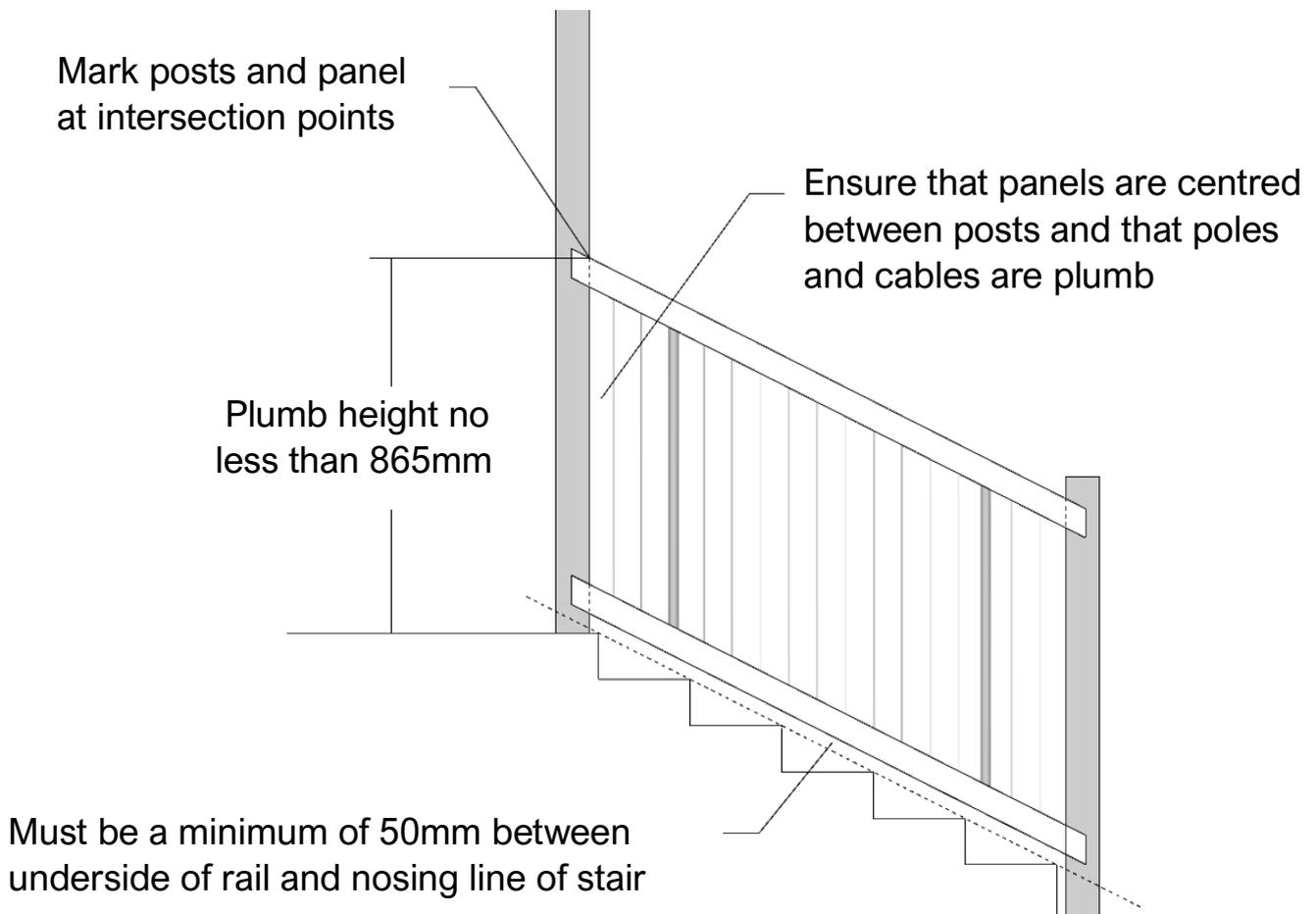
- Check and adjust tension if necessary using a 17mm socket and ratchet on the adjusting nuts in the underside of the bottom rail. Use the tensioning gauge (supplied) as a guide to achieve correct tension. Pull the gauge through between cables exactly half way between the top and bottom rails. Tension is correct when the flats of the gauge come together. Go to our website, [sentrel.com.au/videos](http://sentrel.com.au/videos) for easy to follow instructions.
- Please leave the tensioning gauge with the client so that they will be able to check the tension over time.

## FINISHING UP

- Timber must be finished with a penetrative oil as 'sealing' type finishes may trap moisture which can lead to rot over time. Sentrel recommends 'Cutek Extreme', and will not warranty product that has not been treated and maintained in accordance with the manufacturers instructions.
- 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.

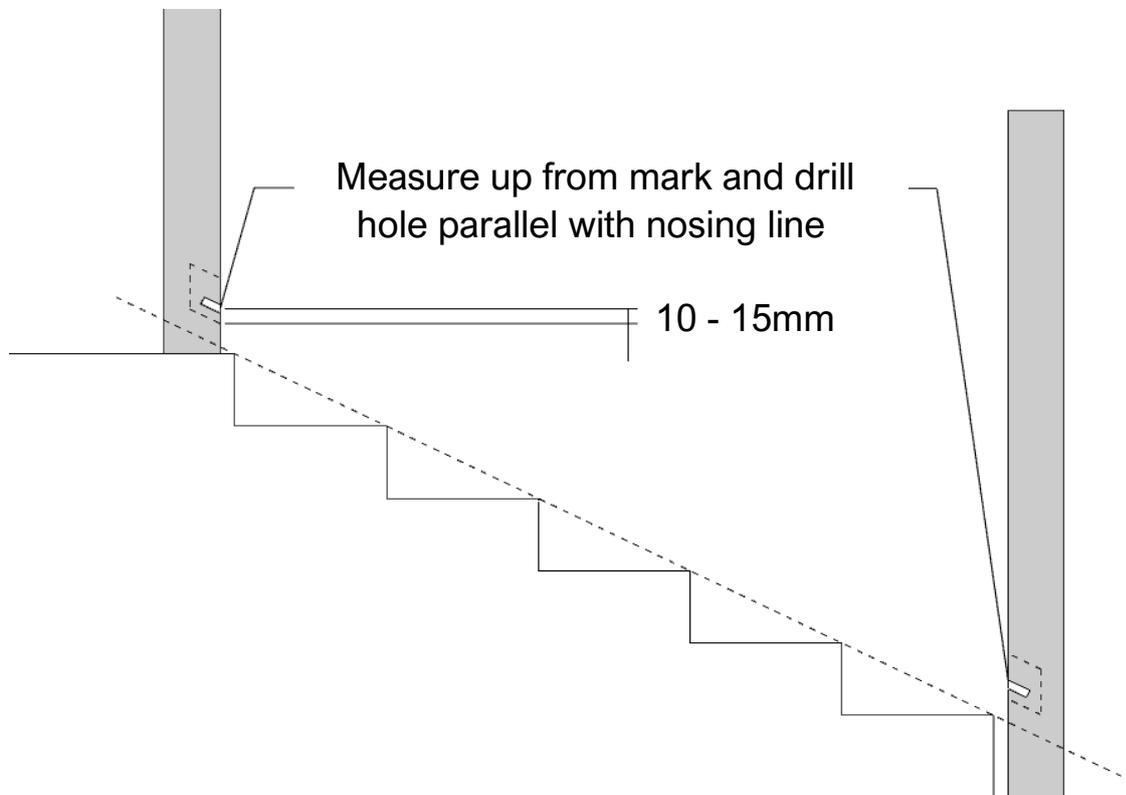
## INSTRUCTIONS FOR FITTING STAIR PANELS

- Position and clamp the stair panel in position at the correct angle, and centred between the mounting posts.
- Ensure that the upright poles are vertical and parallel with the mounting posts. Loosen off tensioning bolts in the bottom rail to assist in fitting if necessary. Panels can be forced a little to fit the exact angle.
- Ensure panel is at correct height, i.e;
  - Top of handrail to nosing line is no less than **865mm**
  - Minimum of **50mm** gap above the nosing line (or stringer) so that re-tensioning of the cables is possible.
- Mark (on the post) where the top of the top rail and the bottom of the bottom rail meet the mounting posts.
- Mark (on the stair panel) where the top and bottom rails intersect with the mounting posts.
- Remove panel and trim on the marks. **NOTE:** Accuracy at this point is vital. Mismeasurement will result in gaps between the posts and the balustrade, and this affects the appearance and quality of the installation.



## MOUNTING THE PANEL

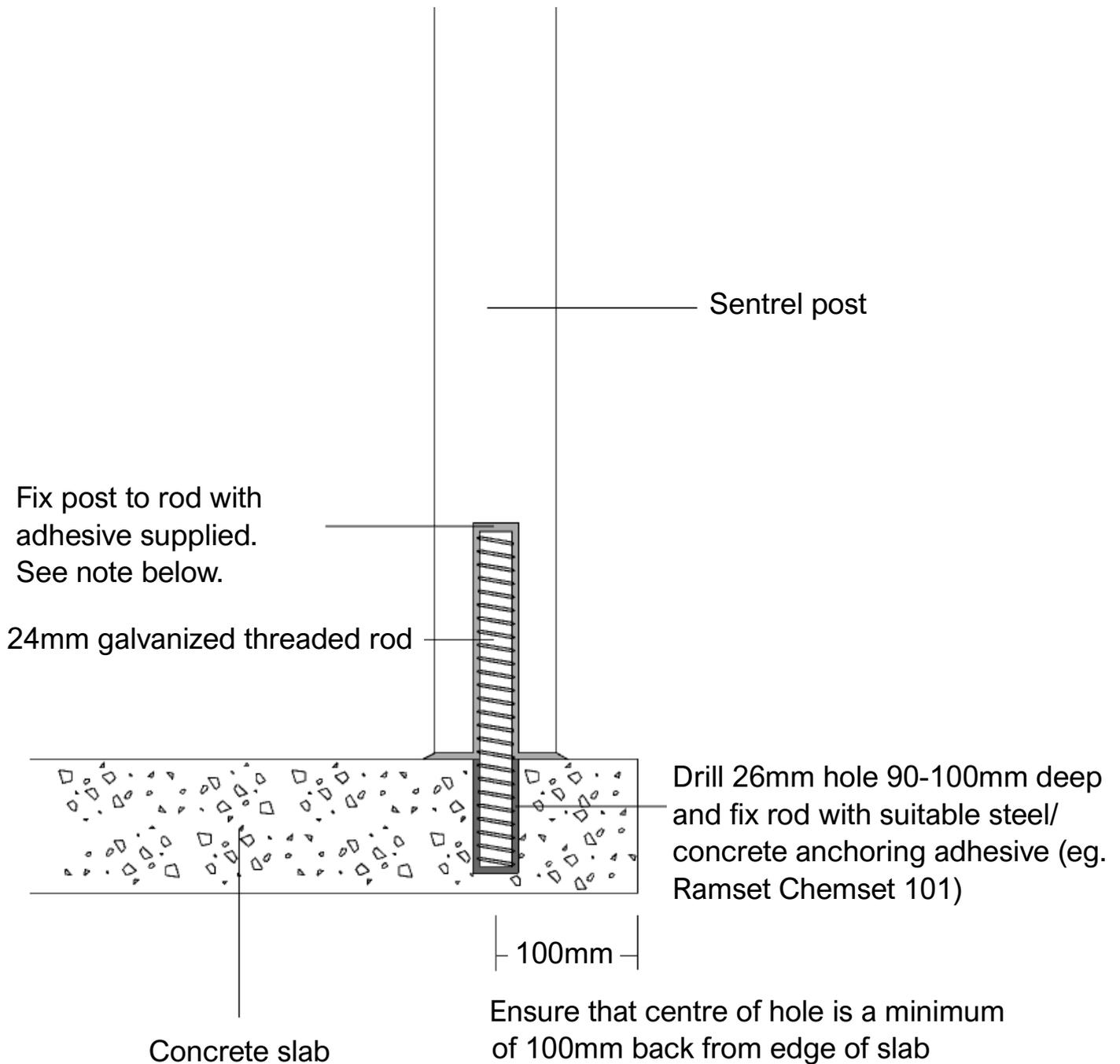
- Measure up **10 - 15mm** from the bottom rail mark made on the post.
- Using the dowel drill, drill a hole in line with the nosing line on the centre line of the post **30mm** deep.



- Hammer (and glue if necessary) mounting pins into the holes.
- If handrail is to run over the top of posts, measure down **5 - 6mm** from the mark made where the top rail meets the posts. As described earlier, this is so the channel in the handrail will sit over the top rail and onto the top of the post.
- Cut the post neatly and accurately at the correct angle.
- Place panel between the posts and over the bottom mounting pins.
- Using clamps or similar, devise a way to raise and fine tune the position of the top rail so that it meets with the mark, or correct position **5 - 6mm** above the top of post if handrail is to run over.
- Fix top rail in position by skew-screwing through from the top into the posts, and/or from the posts into the top rail—whichever gives the best result. Drill clearance holes to avoid splitting the timber and make sure that any gap closes between the rail and post. Be sure that the rail remains on its mark (it may be necessary to use straps to hold everything in place while gluing and fixing).
- Tension cables if necessary.
- NEVER FIX BOTTOM RAIL WITH SCREWS—It must be able to 'float' to allow future re-tensioning.
- Fit the handrail over the top rail with Bostik AV 515 adhesive (or similar) and clamp until set. Trim off any excess glue with a sharp knife.

## APPENDIX A

### FIXING SENTREL POSTS TO CONCRETE SLAB



**NOTE:** The adhesive supplied is ideal for fixing the post to the rod. Ensure plenty is injected into the hole and to base of the post. The adhesive will expand slightly. Keep post weighted down and plumb while adhesive sets. Trim off excess when cured with sharp knife.

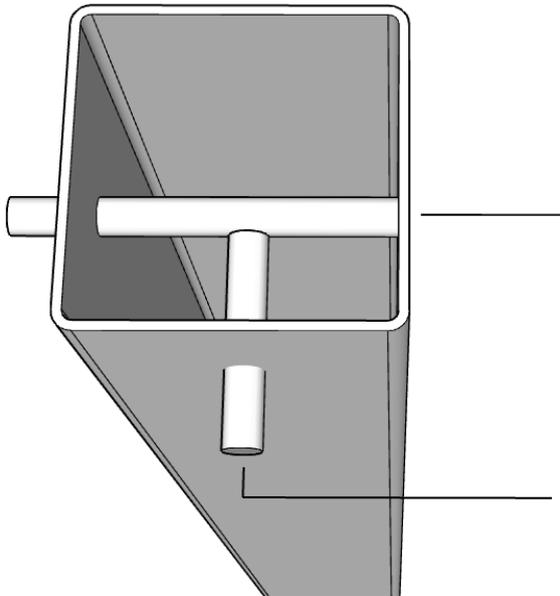
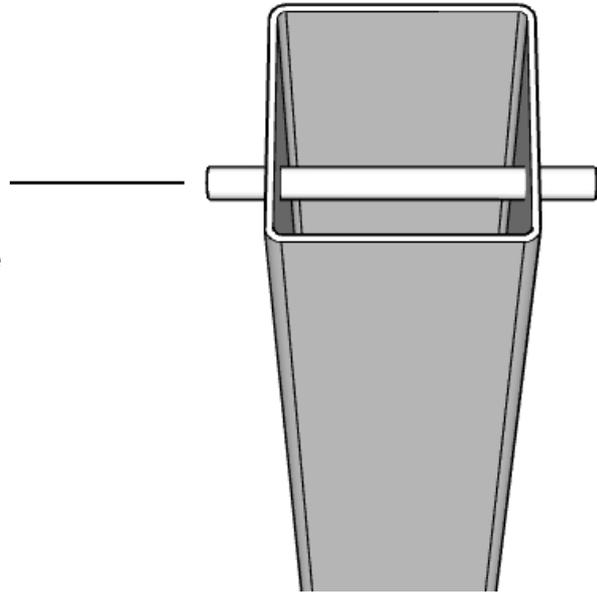
**DO NOT USE THIS ADHESIVE TO FIX THREADED ROD INTO CONCRETE SLAB.**

## APPENDIX B

### FIXING SENTREL MOUNTING PINS TO STEEL POSTS

#### FOR CONTINUOUS PANELS

12.7mm stainless steel pin supplied  
hammered into slightly undersize hole  
to ensure firm fit



#### FOR PANELS MEETING ON CORNERS

Pin hammered in to hit hard against  
inside face of post

Shorter pin hammered in to hit hard  
against through pin

If a firm fit is not achieved on any  
pins, a small amount of weld or  
adhesive may be required

