Pürra®
Stair Balustrade pre-drilled rail system

Richard Burbidge

The following instructions are for installing Richard Burbidge Pürra® pre-drilled rail Stair Balustrading. If you have any queries please contact our Technical Helpline on 01691 678212.

Richard Burbidge Pürra® Timber Baluster stair balustrading has been designed to suit staircase pitches between **40° & 43°**. Components have been independently tested to guarantee conformity to UK building regulations

Pürra® Timber balusters are pre-cut to the correct length for a 900mm handrail height staircase baluster – 815mm – landing balusters 865mm. It is recommended to finish balusters prior to installation. Please see finishing advice.

Note. Please check all components carefully PRIOR to installation for any damage to the surface, as Richard Burbidge cannot be held responsible for any damage once installation has commenced.

The Pürra® Timber Baluster and Twist Bracket has been independently tested by FIRA and when installed in accordance with these instructions conforms with Building Regulations for balustrades at 900mm high and 0.36kN/m domestic loadings. (FIRA Structural testing reports and Richard Burbidge balustrades are safety approved by TRADA (BM TRADA Approved Timber Balustrading Scheme certificate number 022/001).

INSTALLATION

Before commencing your installation of the Pürra® Timber Baluster using the twist bracket please read these instructions carefully.

This system is designed to suit **40°- 43°** pitches only.

Tools required - 11mm & a 16mm diameter drill bit, crosshead No. 2 screwdriver and a 6mm hexagon drive bit, PU adhesive, together with electric/battery drill, spirit level, tape measure, square, handsaw, 50mm No. 8 crosshead countersunk screws for fixing the baserail, and an adjustable bevel (to work out the correct angle of your stairs, and marking out).

INSTALLING NEWEL POSTS

When installing a timber newel post, we recommend that it is saddled centrally over the timber string. Ensure that the front face of the relevant riser is central to the inside face of the newel base **(Fig.1.)**. Once in position, check that the newel is vertical and set to the correct height. To secure the newel, either bolt, screw or dowel and glue **(Fig.2.)**.

Place the pre-drilled baserail against the side face of the newel and slide along so the gap between the inside newel face and the outside edge of the drilled hole is equal top and bottom and using a pencil mark a line on the rail top and bottom (this is easier done with 2 people). Cut the baserail to the correct length, check the fit between inside newel faces. **(Fig.3)**. If using existing newel please refer to Twist bracket Fitting Instructions available to download from our website – richardburbidge.com

Using the 2x26mm dowels supplied in the twist bracket pack, place one in each end of the baserail and locate the pre-drilled holes in the handrail onto the dowels **(Fig.4)** and slide down until the two rail faces touch, Strike a line from the baserail cut lines onto the handrail on both ends **(Fig.5)**. This will ensure that the pre-drilled holes in the two rails are in-line with each other which makes fitting the balusters easier. Seperate the rails and then cut the handrail to size and put to one side.

The baserail can now be fixed using the No8 screws, screw through the pre-drilled baluster holes into the string as this will hide any fixings on show.

Pürra® balusters and all cut off points are referenced from the top of the baserail upwards.

Fig 1

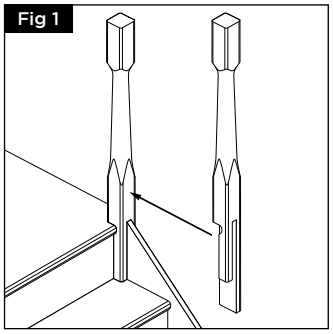


Fig 2

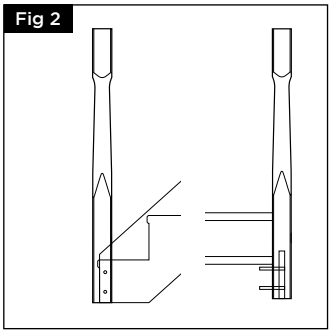


Fig 3

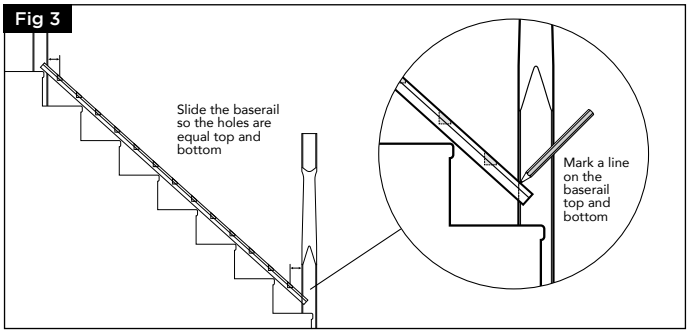


Fig 4

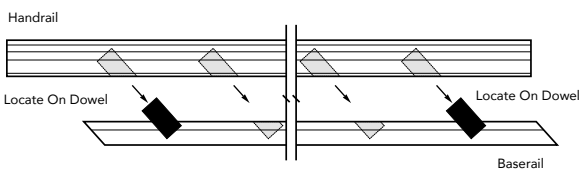
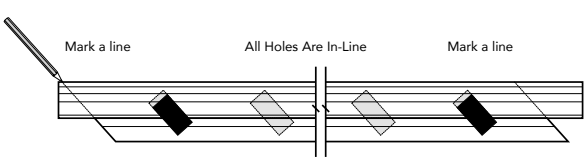


Fig 5



FITTING THE HANDRAILS USING THE TWIST BRACKET

Locate the raking twist brackets central to the underside of the handrail and using a pencil mark out the slot on both ends of the rail **(Fig.6)**.

Note: If the twist bracket is too long and is too close to the 1st drilled hole, trim the bracket to suit leaving 2 screw holes remaining for fixing **(Fig.7)**.

Chisel out the previously marked out slots for the twist bracket to a depth of 8mm **(Fig.8)**, and fix the rake twist bracket using the 3 screws provided **(Fig.9)**.

To set the correct height of the handrail you will need to cut 2 battens at 776mm long, use the previously set adjustable bevel and mark 2 lines at a length of 776mm **(Fig.10)**.

Cut the 2 battens and place 1 against the inside face of the bottom newel base and 1 against the top newel base face, (Note: to make this easier if its a 1 person installation, use masking tape to hold the battens in place against the newels), lower the handrail on top of the battens so the twist bracket hole is on the outside of the newel face. **(Fig.11)**.

Using a pencil mark the centre of the twist bracket hole (top and bottom bracket) onto the newel face. **(Fig.12)**. Remove the handrail and mark a hole position offset +2mm from the previously marked centre line, (this will ensure the handrail is tight to the newel face when the tapered screw is tightened) repeat for all other newels. **(Fig.13)**.

Using a square, mark a line on the inside of the newel face from the centre of the twist bracket holes and across the faces of the newel, follow the centre line with the square and draw a line across the face of the newel where the handrail will be attached **(Fig.14)**.

Draw a vertical line through the previously drawn line down the centre of the newel face **(Fig.15)**.

Drill the newels using an 11mm diameter drill bit on the inside faces of the newels (facing inside the stairs) to a depth of 60mm to accommodate the tapered screw and a 16mm diameter drill bit to a depth of 40mm on the inside faces of newels to accommodate the ends of the Twist Bracket.

Place a small amount of PU adhesive on each end of the handrail and offer up to the newel, position the ends of the twist brackets into the 16mm diameter holes in the newel and insert the tapered screw so it starts to pull the rail in, do not fully tighten at this stage **(Fig.16)**.

Apply a large bead of a proprietary 'Fast Grab' PU adhesive to the inside circumference of the newel base and a small bead to the flat surface on the top of the newel base.

Note: Do not use any other type of adhesive.

The tapered screws can now be fully tightened into the 11mm diameter holes in the top and bottom newels using a 6mm hexagonal drive/allen key until the shoulders on the handrail are flush against the newel faces **(Fig.17)**.

Fig 6

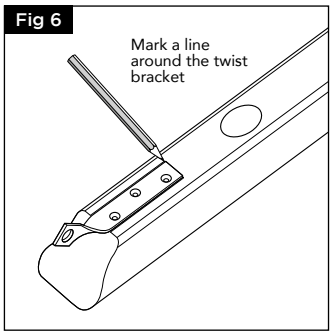


Fig 7

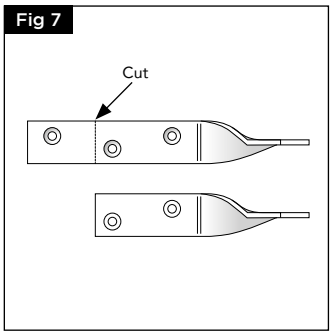


Fig 8

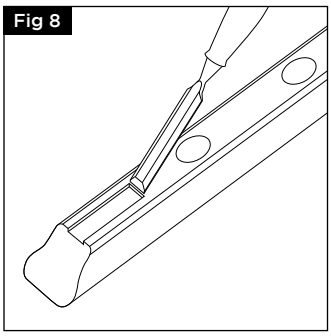


Fig 9

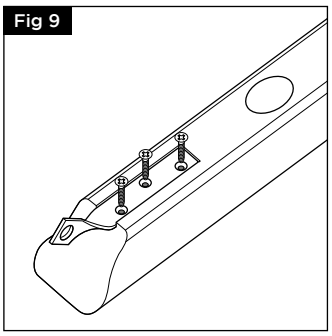


Fig 10

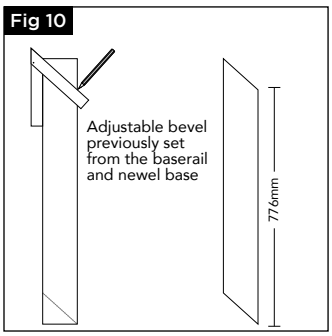


Fig 11

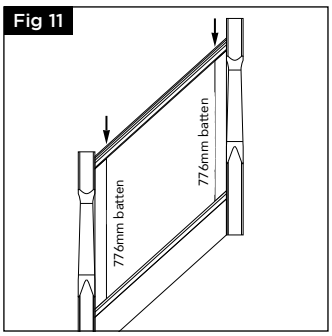


Fig 12

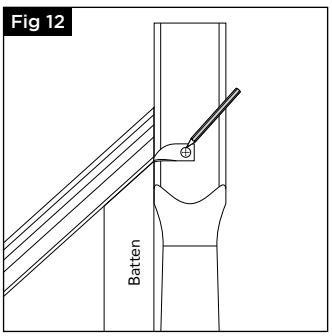


Fig 13

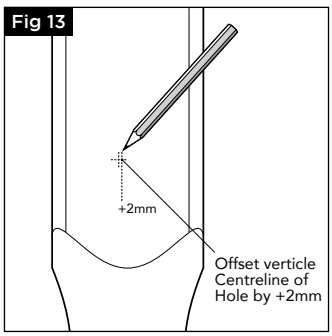


Fig 14

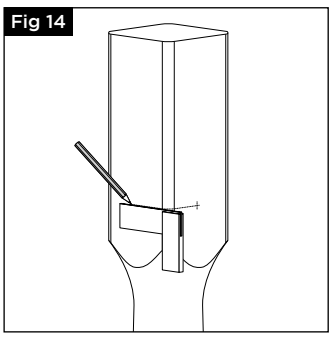


Fig 15

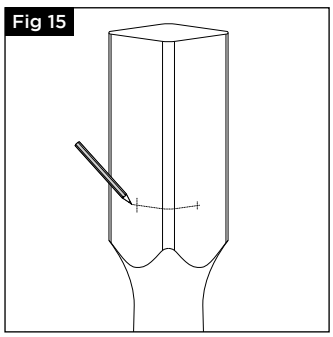


Fig 16

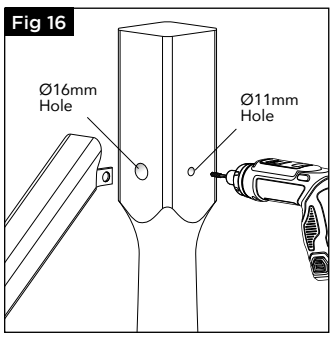
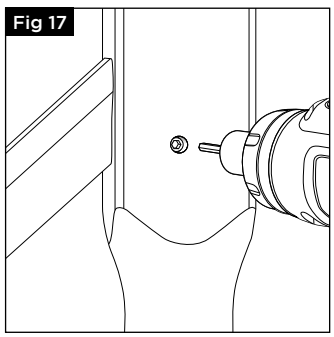


Fig 17



FITTING THE BALUSTERS

Using a multi-purpose adhesive in a mastic gun (No-nails, Stixall etc) place a bead into the bottom pre-drilled holes in the baserail, repeat this application for the pre-drilled holes in the handrail, taking care not to put too much in each hole. **(Fig.18 & Fig.19)**.

Note: wipe off any excess adhesive from the rails and balusters immediately.

Place the baluster at an angle and slide it into the pre-drilled hole in the handrail as far up as it will go so it makes contact with the adhesive. **(Fig.20 & Fig.21)**.

Straighten up the baluster so bottom end lines up with the pre-drilled hole in the baserail, slide the baluster down as far as it will go. **(Fig.22)**.

Repeat this for the rest of the balusters.

Now all the balusters are in place apply adhesive to the cover caps and place over the previously drilled 11mm diameter holes.

Use the same adhesive to secure the the twist bracket cover caps under each end of the handrail into the chiseled slot so that it covers the twist bracket.

For raking Handrails you may need to trim the timber covers slightly to fit up against the newel face.

LANDING BALUSTRADE

The Twist brackets for landing configurations are straight **(Fig. 23)**.

Hand and baserails for landing configurations are supplied pre-drilled **(Fig. 24)**, the Landing balusters are pre-cut to the correct length.

Installing the landing balustrade using the twist bracket and tapered screw is done the same way as described in the rake balustrade section .

To install the handrail at the correct height for landing configurations you will need to cut a straight batten at 828mm long **(Fig. 25)**, this will maintain the 900mm handrail height conforming to building regulations, apply as described in the previous instructions.

The configuration shown in **(Fig. 26)** shows a mitred HT, this can easily be acheived by marking a 45° line across the rail and then cutting the angle, Mark a line at 45° across the rail in the opposite direction to the first rail and cut, Join using dowels and glue the two rails together creating a right angle.

Note: As part of the building regulations requirements, no openings in any balustrade should allow the passage of a 100mm sphere.

When joining the two mitred rails make sure the gap between each baluster does not exceed 99mm. **(Fig. 27)**.

FINISHING ADVICE

Balusters - Varnish is available in clear matt, satin and gloss finishes and also tinted/coloured, varnish gives a tough, durable and hardwearing finish which requires minimal maintenance and is heat and water resistant. Coloured varnishes have the advantage of being suitable for application on previously varnished surfaces. when applying coloured varnishes you should note that as they do not penertrate like a true wood stain/dye it is a good idea to finish with a couple of coats of clear varnish which will prevent colour loss due to wear and tear.

As well as polyurethane varnishes there are a number of acrylic/ water-based varnishes which are solvent free, have a low odour and are extremely quick drying. They also have the advantage of easy brush maintenance and require only a quick rinse with water after use.

Method - Using a good quality paint brush, Paint the baluster using a paint formulated for use on metal.Apply the paint with thin, even strokes.

Use enough paint to avoid brush strokes but not so much that the paint puddles on the baluster.

Use an artist's brush to reach into the small corners and crevices. Allow the first coat to dry, before applying a second coat of paint. Multiple thin coats will be more durable than one thick coat. Allow each coat to dry according to the manufacturer's directions before applying the next.

Fig 18

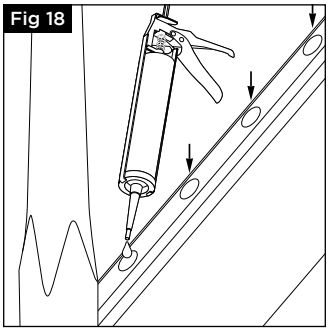


Fig 19

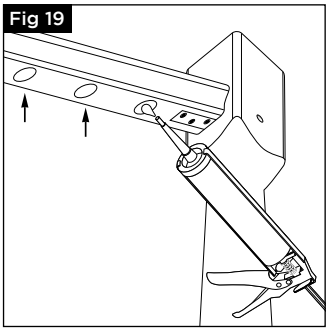


Fig 20

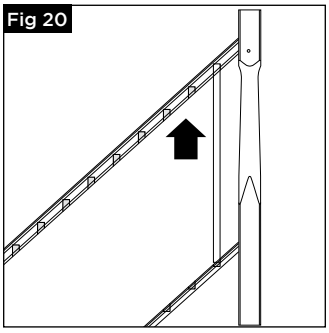


Fig 21

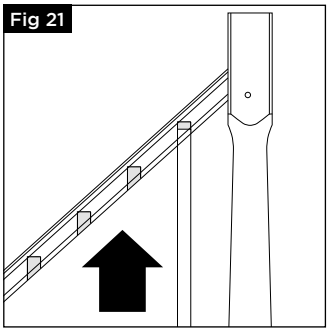


Fig 22

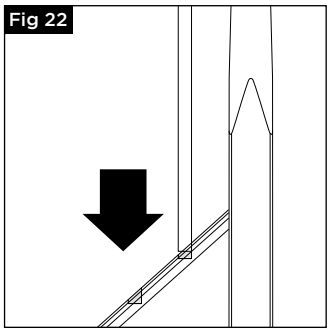


Fig 23

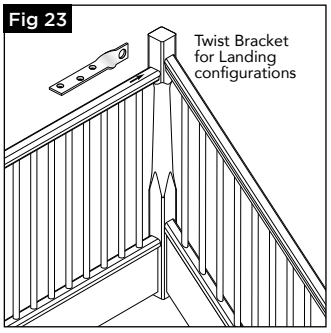


Fig 24

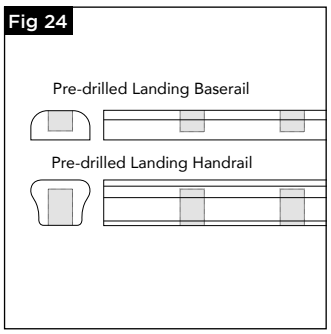


Fig 25

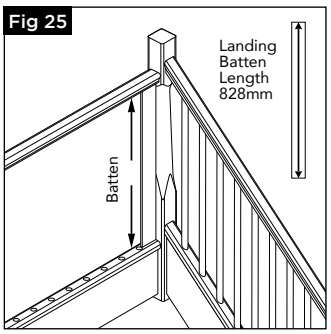


Fig 26

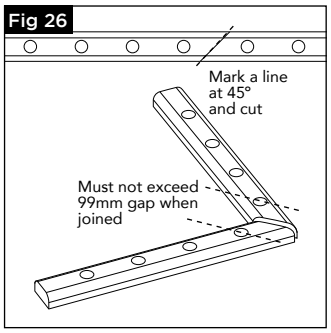


Fig 27