

FUSION® Domestic Indoor Glass Panel instructions should be read in conjunction with our FUSION® system instructions which are supplied with all FUSION® newel base connectors.

FUSION® Domestic Indoor Glass Panels are suitable for use on closed string domestic stairs with pitches between 38 to 45° and minimum handrail heights of 900mm for both stairs and landing.

The FUSION® System and Glass Panel Infills have been tested by TRADA and FIRA for conformity with current UK Building Regulations domestic installation strength requirements of 0.36kN/m.

FUSION® newels, rails and connectors are installed as detailed in the FUSION® system instructions supplied with all FUSION® newel base connectors APART from the spacing of newels which when used with FUSION® Domestic Indoor Glass Panel Infill's should be set no greater than 2400mm.

For ALL installations the maximum distance between newels must not exceed 2400mm. For stair and landing installations longer than 2400mm an intermediate newel must be used.

Please refer to **Fig.1** for a detailed description of bracket terminology.

STAIR INSTALLATIONS

Start by assembling a panel and brackets, as this will be used to set the first and last panel positions between newels. Place the nylon sleeve over the boss on the bracket clamp PT1 (**Fig.2**).

Insert the rubber washer over the nylon sleeve and into the bracket clamp PT1 (**Fig.2**). Insert the rubber washer into bracket clamp PT2 by removing the self adhesive protection making sure that both rubber washers sit correctly within both brackets (**Fig.2**).

Insert the nylon sleeve on bracket clamp PT1 into the hole in the glass panel. Place the bracket base (**Fig.1**) onto bracket clamp PT1 so that it locates onto the lower boss. Align the bracket clamp PT2 and insert 2 x M6 bolts supplied through the holes in the bracket to secure but at this stage to not fully tighten (**Fig.3**).

Repeat this exercise for the other glass panel hole (**Fig.4**).

Offer the assembly of glass panel with brackets between the bottom and top FUSION® rails positioning the edge of the glass panel so that it is approximately 50mm from the inside face of the newel base. For ease of installation use a 50mm timber packer (**Fig.5**).

Make sure the glass panel is perpendicular by using a spirit/torpedo level and mark the centres of the brackets to the bottom and top rails using a pencil. All brackets are supplied with a small notch in the centres of brackets to aid in identifying the centre of brackets (**Fig.5**).

Fig. 1

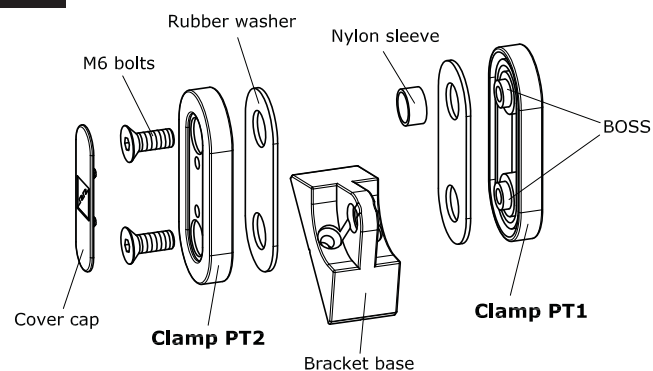


Fig. 2

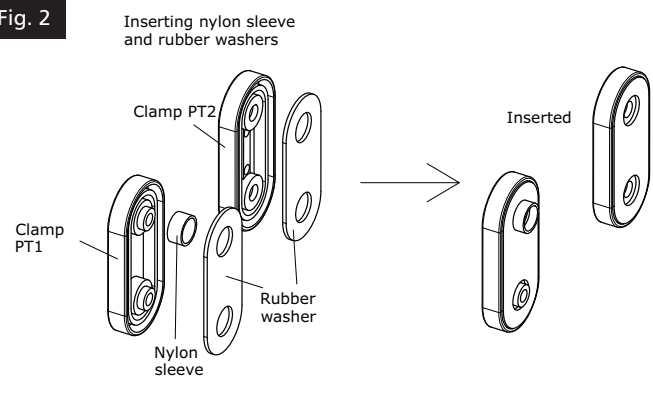


Fig. 3

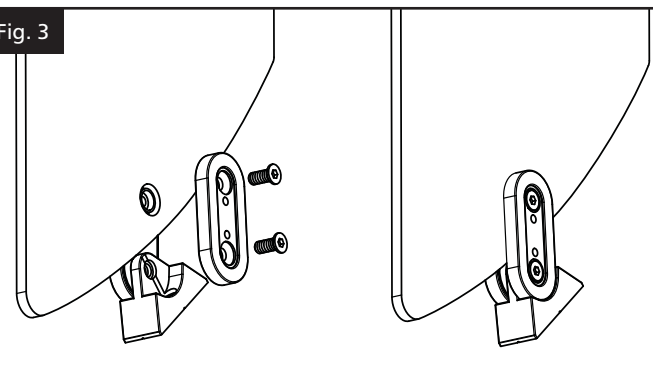


Fig. 4

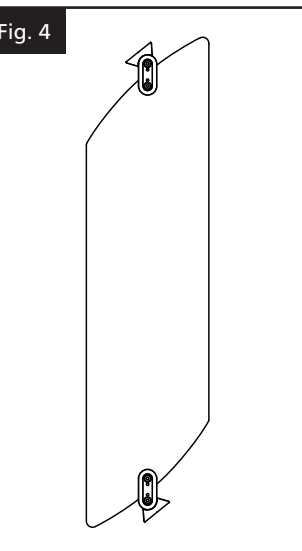
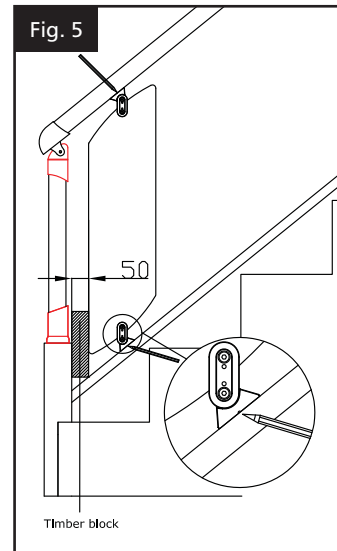


Fig. 5



Repeat this exercise for all glass panels that are used next to newels on stairs. **Fig.6** illustrates a stair run that is longer than 2400mm and therefore uses an intermediate newel (**Fig.6**).

Once the first and last glass panel bracket positions have been marked with a pencil to the FUSION® handrail and baserail they can be carefully removed and placed to one side.

Measure the distance 'x' between the centres of the first and last bracket position marks on the FUSION® baserail. Divide this measurement by 350 rounding up or down to the nearest whole number:

i.e. $7.4 = 7$ and $7.6 = 8$.

Divide 'x' by the whole number to give the required centres for all brackets on the run. **Fig.7** details the minimum and maximum bracket centres for the FUSION® Domestic Indoor Glass System to conform to Building Regulations regarding maximum spacing of infills (**Fig.7**).

Example:

Distance 'x' = 1650mm.

$1650 \div 350 = 4.7$ rounded up to the next whole number = 5

$1650 \div 5 = 330$ mm centres

Pitch of the example stairs is 42° and 330mm is therefore within the minimum 285mm and 400mm maximum bracket centres.

Mark the centre positions of all brackets with a pencil to the FUSION® handrail and baserail (**Fig.7**).

Position all bracket base parts so they are central to the flat on both the handrail and baserail and so that the notch on all brackets is in line with the previously marked pencil lines. Mark through the holes in the bracket bases to the handrail and baserail and then pilot drill to suit the No.8 (4.2mm) screws supplied. Fix all bracket base parts to both the handrail and baserail using 2 x No.8 x 25mm screws supplied per bracket (**Fig.8**).

Attach bracket clamps PT1 and PT2 to all glass panels and secure by inserting the M6 bolt supplied but do not over tighten at this stage (**Fig.9**).

Offer the glass panel with PT1 and PT2 attached to the bracket base on the underside of the handrail by opening them slightly to allow location of the lower boss into the recessed locator hole within the bracket base. Once located, insert the M6 bolt supplied and secure in place. Repeat for the bottom of the panel to the baserail (**Fig.9**).

Check that the panel is perpendicular using a spirit level; make any necessary adjustments and final fix by tightening all M6 bolts. To complete, insert the cover caps supplied and press into place (**Fig.10**).

Fig. 6

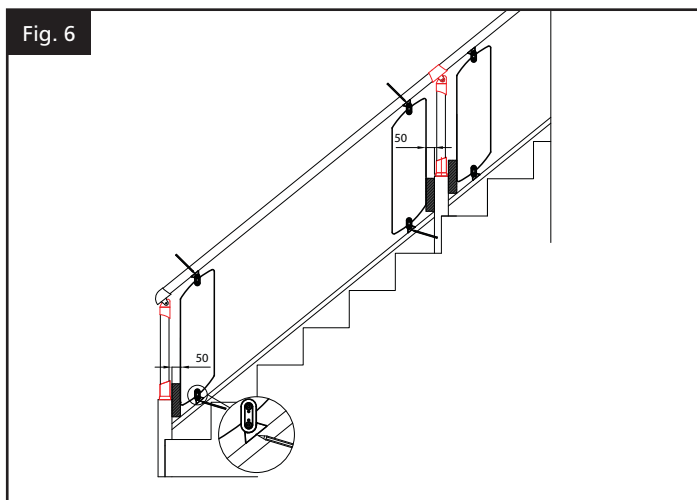


Fig. 7

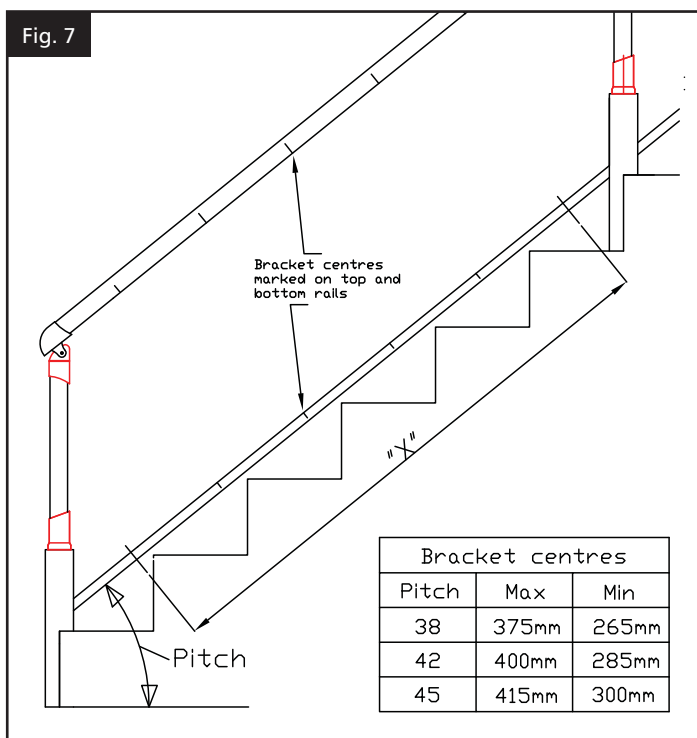


Fig. 8

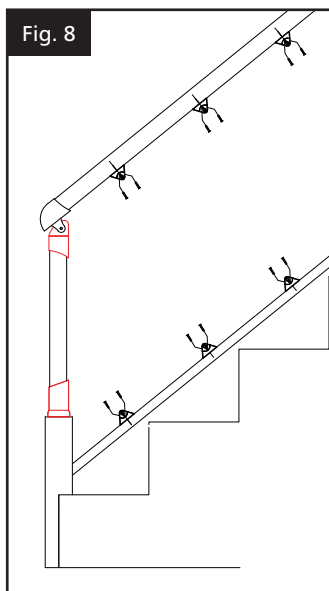
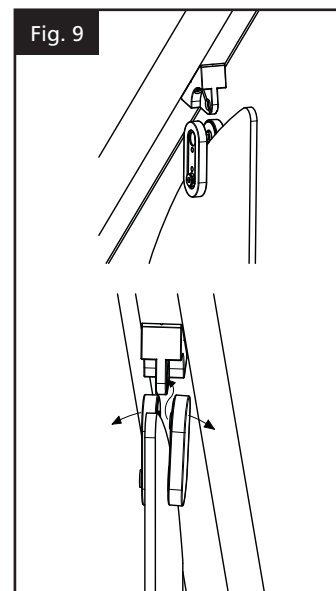


Fig. 9



LANDING INSTALLATIONS

For landings that return 180° off the staircase the minimum requirements are detailed in **Fig.11**. When a newel is used the minimum from centre of top of stairs newel to landing newel is 246mm. If using the FUSION® horizontal turn the minimum requirement is 170mm taken from centre of top of stairs newel to centre of landing handrail (**Fig.11**).

The maximum distance between landing newels is 2400mm. For landings exceeding this maximum a mid newel should be used.

To install the landing glass panels follow the same procedure as for stair panels apart from the positioning of the bracket centres. On landings measure the distance 'x' between the centres of the first and last bracket position marks on the FUSION® landing rails. Divide this measurement by 290 rounding up to the next whole number (**Fig.12**).

Example:

Distance 'x' = 2100
 $2100 \div 290 = 7.2$ rounded up to the next whole number = 8
 $2100 \div 8 = 262.5\text{mm}$ centres

Mark the centres for all of the panel brackets to both the bottom and top FUSION® rails and fix base brackets to rails (**Fig.13**).

Position all bracket base parts so they are central to the flat on both the handrail and baserail and so that the notch on all brackets is in line with the previously marked pencil lines. Mark through the holes in the bracket bases to the handrail and baserail and then pilot drill to suit the No.8 (4.2mm) screws supplied. Fix all bracket base parts to both the handrail and baserail using 2 x No.8 x 25mm screws supplied per bracket (**Fig.8**).

Attach bracket clamps PT1 and PT2 to all glass panels and secure by inserting the M6 bolt supplied but do not over tighten at this stage (**Fig.9**).

Offer the glass panel with PT1 and PT2 attached to the bracket base on the underside of the handrail by opening them slightly to allow location of the lower boss into the recessed locator hole within the bracket base. Once located, insert the M6 bolt supplied and secure in place. Repeat for the bottom of the panel to the baserail (**Fig.9**).

Check that the panel is perpendicular using a spirit level; make any necessary adjustments and final fix by tightening all M6 bolts. To complete, insert the cover caps supplied and press into place (**Fig.10**).

Fig. 10

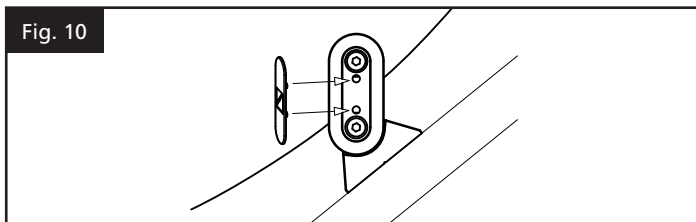


Fig. 11

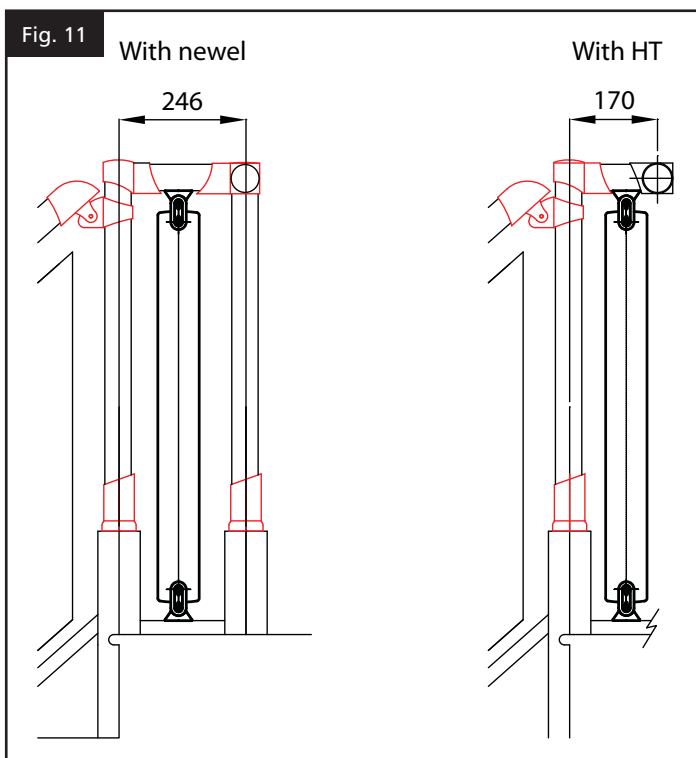


Fig. 12

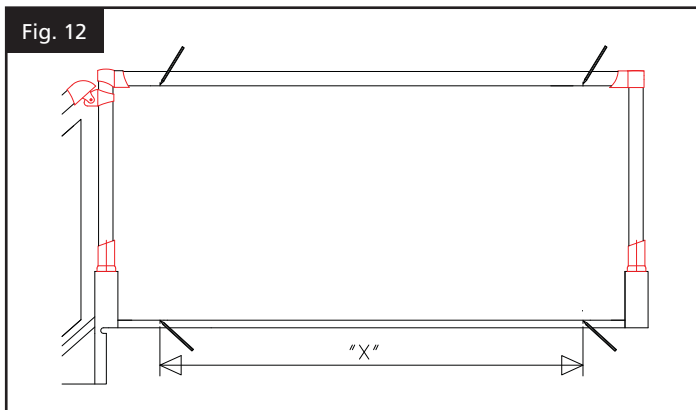
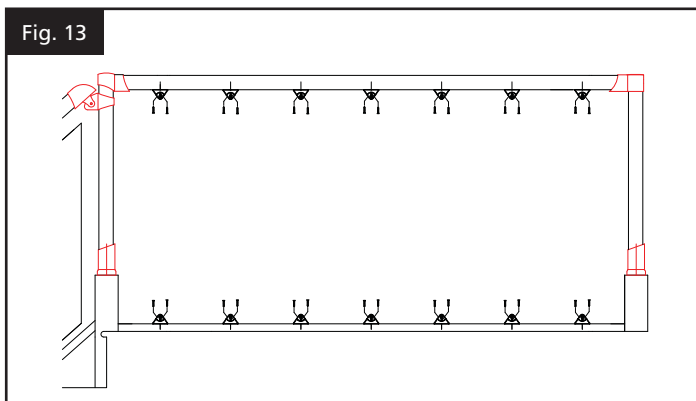


Fig. 13



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