

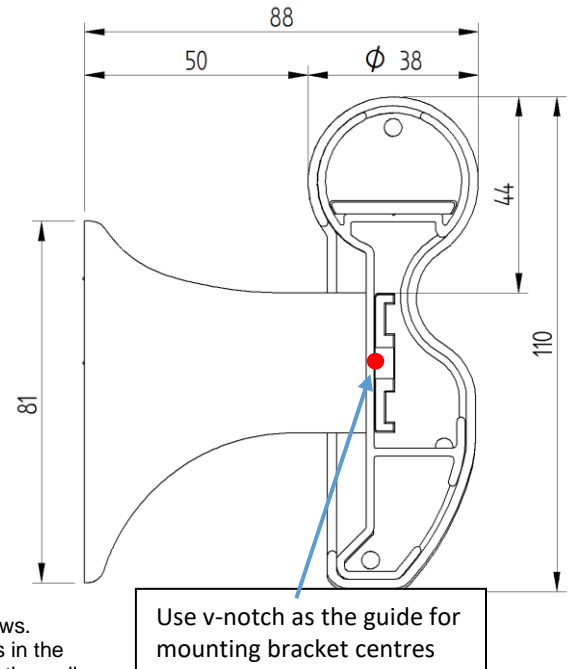
### Installation Instructions

#### CHR110 Combination Hand Rail

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#### CHR110 Combination Hand Rail

1. Measure the desired length for the handrail, making allowances for any corners or returns together with gaps between the returns and any corner or architrave. For return ends reduce the overall length by 100mm for the moulding, plus an additional 30-50mm gap so that they can be fitted and removed when placed near an architrave or wall/corner. For any internal corner pieces allow 150mm from the corner's vertex. For an external corner cut the aluminium retainer to a length of 15mm from the apex.
2. To assemble the corners and returns, drill  $\text{Ø}6.0\text{mm}$  holes centred on the v-notch 10mm from the end of the aluminium retainer. With the reveals sitting flush over the corners and returns, use the nut, washer and bolt supplied to secure through the retainer. Drill a  $\text{Ø}3\text{mm}$  pilot hole through the v-notch of the horizontal PVC tab and on through the aluminium retainer to fit the supplied 8mm x 5/16" screw and M6 washer to anchor the top section of the return/corner onto the retainer.
3. To determine the position of the mounting brackets, drill a  $\text{Ø}6.0\text{mm}$  hole in the retainer along the v-notch of the retainer at a distance of 50mm from each end of the retainer. The distance between the first/last brackets is then divided into equal spacing with maximum distance between brackets of 650mm and  $\text{Ø}6.0\text{mm}$  holes drilled through the v-notch of the retainer.
4. Use a laser level to mark a height of 80mm below the prescribed upper handrail surface height, as the guide for the hole centres of the bracket screws. Position the retainer against the wall at the desired height, aligning the holes in the retainer with the laser level and mark the locations of the mounting holes on the wall.
5. Drill all marked holes, ensuring that appropriate plugs and/or fasteners are used and that there is a minimum of 30mm of fastening length available for the fixing screws (not supplied).
6. Loosely attach the retainer to the wall using one screw at either end of the retainer. Check alignment of all remaining holes in the retainer with the holes in the wall while maintaining alignment with the laser level. Correct any misaligned hole positions if needed. Thread the long screws through the retainer and then through the CHR1103 bracket and fasten the retainer firmly to the wall (not forgetting to tighten the first/last bracket).
7. Measure the distance between reveals as the cut length for each vinyl profile which should always be the length of the Aluminium retainer plus 26mm (13mm land at each end). For long sections of handrail, joints in the vinyl should not coincide with joints in the retainer and should be staggered so that they are at least 300mm apart.
8. Cut the vinyl cover, taking care to ensure that the cuts are both square and clean. Loosely position the vinyl against the retainer to check the fit. Place the cylindrical section of the PVC-u profile against the corresponding section of the retainer while butting one end of the PVC-u profile up against the reveal. Stretch the opening by pulling the bottom section out horizontally and gently pushing down vertically until it snaps around the upper section of the retainer. Leave the PVC-u profile in the horizontal position until the entire top section has been stretched into place tight against the reveals. Once the entire length of the top handrail section of the PVC-u profile has been positioned then the final section can be snapped into place by rotating the bumper section into the vertical orientation and the bottom edge clipping onto the underside of the retainer.



#### Fitters Tips:

- When cutting CHR110V on site, the PVC-u cover may try and compress under the pressure of the saw blade while cutting. This can be reduced by cutting slowly, cutting from the back and have a piece of retainer adjacent to the cut so it supports the cover. A fine-tooth aluminium/plastic blade is also preferred.
- When doing long runs of over 4m, start with a full 4m length then the additional length, but ensure the opposite orientation for the PVC-u cover; This usually ensures that joints of PVC-u and retainer never coincide. If a length of 4.5m is required it might be better to achieve this with say 2.5m and 2.0m lengths (remembering to stagger the joints of retainer/cover) rather than having to use short runs.

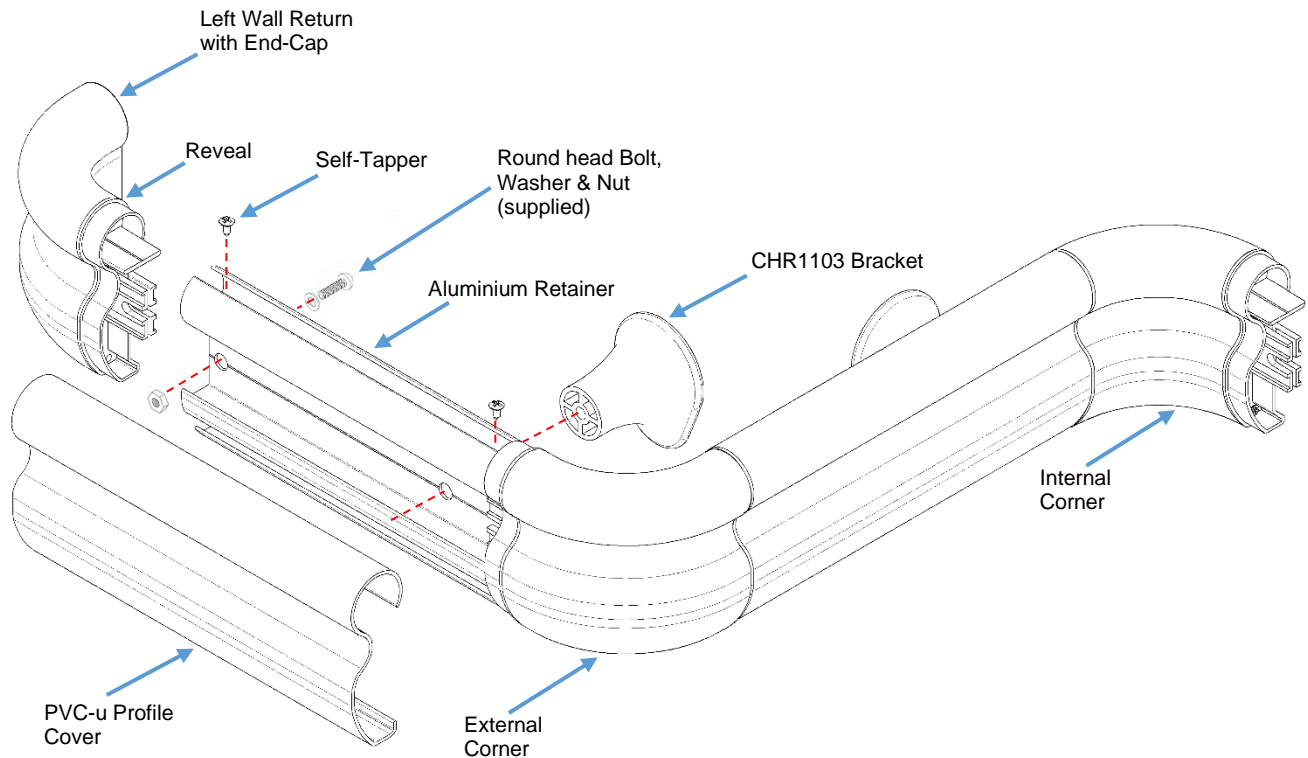
## Wall Protection

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### CHR110 Combination Hand Rail



Part	Description
CHR110V/XX/XXX	PVC-u Profile Cover
CHR110A/XX	Aluminium Retainer
CHR1104L/XXXK	Left Hand Return for CHR110 (includes fixings)
CHR1104R/XXXK	Right Hand Return for CHR110 (includes fixings)
CHR1102INTL/XXXK	Internal Corner for CHR110 (includes fixings)
CHR1102EXT/XXXK	External Corner for CHR110 (includes fixings)
CHR1103	Mounting bracket