

SPECIFICATION SHEET NO	DESCRIPTION	DATE
IG208	GRADUS CHR160 COMBINATION RAIL	FEB 2026

INSTALLATION GUIDE

Important: Prior to installation, ensure that the wall/substrate can support the products/fixings being used.

1. Measure the desired length for the handrail, making allowances for any accessories to be added to the straight lengths. Reduce the length by 90mm for each wall return being fitted and a further 30mm so that it can be fitted and removed if it is next to a wall or architrave. For any internal corner pieces allow 120mm from the corner's vertex. For any external corner it is necessary to extend the straight section 20mm beyond the apex of the wall.

2. SHR40P handrails are delivered with the PVC-u cover and 'closer' already snap-fixed into the aluminium profile. Remove the 'closer', by carefully lifting it from the aluminium with a blunt tool. For a better appearance, cut the aluminium and PVC covers to length while they are fixed together using a chop saw fitted with a fine-toothed blade.

3. With the closer removed, the aluminium linking pieces can be slid along the slot of the aluminium profile, making sure the nylon spacers are all on the same side. For brackets at a corner or a return, use a spacing of 70mm from the end of the retainer to the centreline of the bracket. For short handrail lengths, use at least two brackets set at equal intervals of no more than 600mm. Clamp the brackets to the aluminium profile by tightening their grub screws using a 2.5mm Allen key. Likewise for the returns and corner pieces, always ensuring that the reveals are in place, fasten them to the retainer using the grub screws.

4. For handrail lengths longer than 4.00m it will be necessary to connect 2 sections, and this can be done in one of two ways (i) over a bracket or (ii) using a jointing block. When the desired length has been determined allow 70mm for each end bracket then divide the remaining length by the number of available brackets minus one. The ideal spacing is 600mm, but spacing should never exceed 650mm. If the spacing is calculated to be less than 550mm reduce the number of brackets. Wherever possible try and even out the lengths of the handrail sections (i.e., for a 4.5 metre length consider using a 2m and a 2.5m length instead of a 4m & 0.5m length). A bracket must not be placed within 80mm of a jointing block due to interference.

5. For all jointing blocks, brackets, returns, and corner pieces ensure the grub screws are tightened into position (but not over-tightened) before inserting the 'closer' sections since the grub screws will be inaccessible after the closers have been inserted. Take care that the reveals are not being pinched. The closer sections all need to be cut to their bespoke length before fitting. Whenever possible insert the cut 'closer' sections before fitting the handrail onto the wall. To minimise dirt traps all closer sections should leave a gap of no more than 2mm in the sections they are required to fill. Closer sections will not span a jointing block.



6. Use a laser level to mark a height of 150mm below the prescribed upper handrail surface height, as the guide for the hole centres of the bracket screws. Hold the assembled handrail up to the wall, ensuring that the handrail is correctly oriented with the nylon spacers facing the wall and correctly spaced relative to sections of wall and corners. While also making sure that the holes in the aluminium linking pieces align with the laser line, make marks on the wall for holes at both ends of the handrail. Drill a hole at both marks using a drill bit appropriate for the wall construction and required fittings (wall plugs and screws, not supplied).

7. Once these 2 holes have been drilled and plugged, loosely mount the handrail to the wall. Use the assembled handrail as a template for marking the hole positions of all the other handrail brackets. Remove the handrail to allow drilling and plugging of all remaining holes.

8. Re-fit the handrail loosely to the wall at each end while fitting the SHR403 mounting brackets between the wall and the nylon spacer of the handrail brackets. With a screw in each hole and a mounting bracket for each handrail linking piece check that all bracket holes are aligned with holes in the wall before tightening any of the screws. Only when all are aligned should the handrail bracket screws be fastened firmly, ensuring that the screws sit flush or inside the front face of the handrail linking pieces.

9. Cut the aluminium retainer to a length which allows the reveals of the handrail and vinyl cover of the bumper section to align vertically.

10. Where a corner or a return is to be fitted, use a Ø6mm drill bit to drill 2 holes in the retainer using the high and low v-notches of the aluminium retainer at 10mm from the end. Fit the corner or return using the supplied M6 x 16mm bolts making sure that the reveal is correctly positioned before tightening. With the head of all the bolts facing the wall, fasten the corner or return hard down.

11. With the retainer in the desired position, the reveal of the handrail vertically aligned with the reveal of the bumper rail, mark the locations of the mounting holes on the high and low v-notches of the aluminium retainer at the point of alignment with the linking pieces. Remove the aluminium retainer from the linking pieces and drill holes at each mark using a Ø6mm drill bit.

12. Loosely attach the retainer to the already mounted handrail section, using one bolt at either end of the retainer. Insert all the remaining M6 X 16mm bolts to check alignment of all remaining holes in the retainer with the holes in the linking pieces. Correct any misaligned hole positions if needed. With the head of all the bolts facing the wall, fasten the retainer hard down.

13. Take the length of the aluminium retainer, minus up to 5mm, as a measure of the bumper section which will need to be fitted. Cut the bumper, making sure that the joints do not align with any joints in the retainer. That is, joints of bumper and retainer should be staggered and should be at least 300mm apart. Align the top edge of the bumper onto the top edge of the support leg on the retainer and snap the bumper into place on the retainer.

14. The length of the PVC-u cover sections in any one run should be planned in order that the final piece to be fitted is not too short and close to a corner or return both for aesthetics and ease of fitting. Wherever possible try and even out the lengths of the PVC-u cover (i.e., for a 4.5 metre length consider using a 2m and a 2.5m length instead of a 4m & 0.5m length) whilst ensuring that joints are minimised and staggered.



15. The length of the retainer plus 5mm in total will be used as the cut length for the PVC-u cover. For lengths of D200 greater than 4.00m, joints in the PVC-u cover should ideally not coincide with joints in the bumper or the retainer, should be staggered and ideally be at least 300mm apart. However, joints in the handrail should align with joints in the PVC-u cover. Cut the PVC-u cover taking care to ensure that the cuts are both square and clean.

16. Loosely position the PVC-u cover on the aluminium retainer to check the fit length, adjusting if necessary. Hook the top edge of the PVC-u cover over the top edge of the retainer while butting the PVC-u cover up against one of the reveals. Press the base of the PVC-u cover downwards towards the base of the aluminium retainer until it snaps into place, when you get to approximately 300mm from the opposite reveal, fold the end of the PVC-u cover inwards towards the reveal/end/corner so that there is a compressive force on the PVC-u cover against both ends/corners/reveals to keep everything flush when the final section is snapped into place. If the length required is over 4 metres, clip one PVC-u cover on entirely and then butt-join subsequent PVC-u cover pieces ensuring the ends are cut square to allow for a tight join. To finish the run, follow the procedure above for fitting the final piece.

Fitters Tips:

- For the cleanest cut ensure the touched face of the closer is cut first. A fine-tooth aluminium/plastic blade is also preferred.

MAINTENANCE:

A regular scheduled maintenance programme should be employed to prevent the build-up of dirt and grease, which will detract from the overall appearance of the product and can lead to the spread of germs and bacteria.

Apply a neutral cleaner to a micro fibre cloth and wipe the surface of the profile. When cleaning handrails, particular attention should be paid to the underside of the handrail as this is where dirt and grease can build up.

The cleaned surface should then be 'rinse wiped' using clean water and then thoroughly dried using a soft cloth. This ensures all cleaning residue is removed.

Abrasive cleaners, solvents, or cleaning pads (e.g., Thinners, Turpentine, Handy Andy) should NOT be used as they will damage the profile surface.