

Installation Instructions

Connecta Rail 40 with LED lighting

Please read the following installation instructions carefully prior to beginning installation of the Intrim Connecta Rail. Failure to comply with these installation instructions may void any warranty. Use in conjunction with Connecta Rail with LED lighting installation video link. [Click here](#) to view.

Should you have any questions regarding installation please phone 1800 622 081 for technical support.

Pre-installation Checklist

1. Ensure noggling in wall prior to plastering for fixing of handrail brackets at correct height.
2. Ensure mains power, junction box wall enclosure, driver and conduit with wiring, draw wire for LED is installed prior to plastering. The maximum length of LED Strip each driver will power is 10 metres long. The wall enclosure has provision for 2 drivers, so you may power a maximum length of 20 metres of LED light strip at 4.8W/metre, providing the power access handrail bracket (HB09FS), is situated in the centre of the 20-metre run. You will need to install wall enclosures/junction boxes and/or drivers, to suit your particular application.
3. Inspect all materials for damage or missing parts. If you find goods to be damaged or missing please contact the supplier.

Installation

STEP 1

Determine height of handrail above finished floor to comply with building code requirements. For 40mm diameter handrail, measure down 118mm from the top of handrail height, to mark the height of the bottom of stainless-steel handrail bracket wall plates.

STEP 2

Flick a chalk line or use laser level to mark height of wall brackets on the wall. Critical to determine the accurate point where the power wiring comes through the wall noggin/batten and wall lining and that it is centrally located behind the handrail bracket (HB09FS) wall mounting plate, prior to plastering.

STEP 3

Install access wire handrail bracket (HB09FS). Drill and screw fix the wall plate through the wall lining into framing noggins or battens with 3 screws.

Handrail will be supplied in random lengths. Match lengths of handrail to sections of wall to minimise wastage.

STEP 4

Measure timber rail lengths making the correct allowances for each section of wall. Cut lengths of timber handrail using an 80 -100 tooth saw blade (specifications - 300mm diameter x 3.2mm thick x 96 teeth), or equivalent. Use equipment that will ensure all cuts are square and neat. If the rail is pre-coated you will need to apply masking tape to the handrail, prior to cutting, to minimise splintering or chip out.

STEP 5

Use drilling jig (SSDJK40) supplied, clamp rail on plank and drill holes in the ends of the handrail. Sand cut edges of timber handrail slightly to apply a small bevel to remove any small

splinters from cutting. Squirt lubricant on the joining fastener (JF01) prior to screwing the fasteners into handrail ends. Insert Joining Fastener (JF01) into hole in end of handrail with hex key drive, turning in a clockwise direction, until tapered piece is left protruding from end of handrail. Please trial first joint by securing a stainless-steel bend or end cap onto the joining fastener to confirm the joint is neat and tidy, prior to doing all the drilling for joining fasteners.

STEP 6

Cut and install LED aluminium U Channel only, into handrail groove, (not diffuser), to match the timber rail lengths. Use an aluminium cutting saw blade, 80 -100 tooth saw blade (specifications - 300mm diameter x 3.2mm thick x 96 teeth – teeth to have a negative rake), or equivalent. Cut them 5mm shorter than the timber handrail ends that join onto a stainless steel Connecta Rail component. Must also cut it 3mm shorter each side of the HB09FS handrail bracket (power access handrail bracket) only. All standard HB02FS handrail brackets fit within the aluminium U channel. Position the timber rail on saw stools and plank, with LED groove facing up and run a bead of high tack adhesive in the centre of the groove along the length and push the aluminium U channel into place.

Start installation of handrail on longest walls. You may need to join multiple lengths of handrail together with a 16mm dia x 60mm timber joining dowel (DJD16), using an end to end butt joint method and PVA wood glue, to achieve the required length of handrail for that particular section of wall. You may also use a Connecta Rail Stainless Steel straight joiner (SS40J) to form this joint.

Attaching, plastic spacers, wiring harnesses and Handrail Brackets to Handrail

STEP 7

Measure and install handrail brackets and wiring interconnections in underside of handrail. Measure and mark each length of handrail, allowing for plastic spacers (SPL12) and handrail Brackets (HB02FS), to be evenly spaced at a maximum of 900mm centres for 40mm diameter handrail. Wall mounting brackets (HB02FS) - distance from external corner of wall, finished surface of wall lining, to centreline of first handrail bracket, to be 200mm. Distance from internal corner of wall, finished surface of lining, to centreline of first handrail bracket, to be 345mm. Distance from wall opening or nib end, to centreline of first handrail bracket, to be 200mm.

Place timber handrail on plank with groove in underside of handrail facing up, and clamp to prevent rotation while installing components.

Locate the 165mm long red and black interconnection wiring harness (ICH165) in the side grooves of the grey plastic spacer (SPL12). Drill 7/64" diameter hole through the centre hole of plastic spacer through the aluminium U channel and fix in place using a 6G x 5/8" long countersunk head timber screw.

Position handrail brackets (HB02FS), on top of the plastic spacer (SPL12) and drill 7/64" diameter holes and screw into the handrail groove, using 2 - 6G x 1" long countersunk head timber screws.

Ensure all brackets finish in the same rotation so they are ready for fixing to the wall.

STEP 8

Install LED light strip in aluminium U channel in underside of handrail. Critical to keep the LED strip in the same rotation so continuity is consistent throughout the whole installation, (+ positive) and (- negative) always in the same rotation. Calculate the overall length of Flexy LED strip required, between the interconnection wiring harnesses (ICH165). Cut strip to length at join marks (50mm increments) and attach to interconnection wiring harnesses. Make sure you remove enough adhesive backed tape on the strip at each end, prior to connecting to the wiring harness. Lay the strip in the aluminium U channel and position the wiring harnesses so the LED strip sits neatly and flat. Peel all the adhesive tape away from back of LED strip and press into place. Install LED strip between standard handrail bracket (HB02FS) and access wire handrail bracket (HB09FS). Cut LED strip and connect to wiring harness at (HB02FS) handrail bracket end. Calculate overall length of strip between the handrail brackets and cut longer, to the next 50mm join mark. Do not remove the rest of adhesive tape on this section of LED strip. Install LED strip between standard handrail bracket (HB02FS) and a stainless steel Connecta Rail 90-degree bend (SS4090B). Calculate overall length of strip between the handrail bracket and stainless-steel bend and cut longer, to the next 50mm join mark. Do not remove the rest of adhesive tape on this section of LED strip. Place masking tape over loose ends of LED strip, to stop it from falling out of handrail groove, when installing handrail to wall.

STEP 9

Install diffuser. Confirm circuit continuity in LED connections, prior to installing diffuser. Measure, mark and cut diffuser to length, with heavy duty scissors, to fit between handrail brackets and connection points. Press and clip diffuser into place over all sections that the LED strip has been completed. Do not clip diffuser into place where the LED strip has not been completed. (wiring access and stainless steel Connecta Rail bend sections). Peel protective film coating from all fitted diffusers.

STEP 10

Install access wire plastic spacer (SPL17). Separate and feed red and black power wires coming out of the access wire handrail bracket (HB09FS), through the spacer, making sure wires are in the same rotation as the LED light strip, to form continuity. Locate on top of the stainless-steel flat saddle of handrail bracket.

STEP 11

Position handrail in correct place on top of the access wire handrail bracket (HB09FS), and drill and screw all handrail brackets (HB02FS), in line with chalk/laser line on wall, through wall lining, into wall battens or noggins. Push cover plates onto handrail bracket wall plates.

STEP 12

Complete installation of LED strip and diffusers to the ends of handrail and at wiring access point and stainless steel Connecta Rail bend sections. Connection at access wire handrail bracket (HB09FS) – cut strip to correct length. Using the, strip to wire connector (STWP8), and pliers, connect the power wires to the LED strip. Remove the rest of adhesive tape on this section of LED strip and press into place. Fix handrail to handrail bracket (HB09FS) - drill 7/64" diameter holes and screw into the handrail groove, using 2 - 6G x 1" long countersunk head timber screws. Cut and fit diffuser.

STEP 13

Install stainless bends and end caps. Bends come with wiring interconnection wiring harnesses. Locate hole in 90° stainless-steel bend over end of joining fastener in timber handrail, making sure wiring is housed into machined slot in the end of the bend, so it does not interfere with the handrail joint. Rotate bend or end cap until parallel and properly orientated. Insert allen key provided into hole in underside of stainless-steel accessory and tighten grub screw. Over tightening may cause damage to thread in stainless steel accessory. Connection at stainless-steel 90° bend (SS4090B) - Cut LED strip to correct length and connect to wiring harness at (SS4090B) stainless-steel 90° bend, end. Remove the rest of adhesive tape on this section of LED strip and press into place. Cut and fit diffuser. Install all the handrails, using the steps as previously outlined.

STEP 14

Complete all wiring connections at joints. Confirm continuity in each run of LED strip lighting.

STEP 15

Complete diffuser installation.

STEP 16

Glue and fix stainless steel ends/wall returns, stainless-steel 90° bend (SS4090B) only, in place. This is not required at internal and external corner joints. Only required at the wall returns so that they cannot be rotated after final installation. See video link <https://youtu.be/NtHj3vvCgjl> for this process. Get signed off approval on the handrail installation, prior to gluing and fixing these wall returns.

Coating of Timber component to Connecta Rail (Not applicable if pre-coated)

1. To protect the stainless-steel surfaces from coating, apply masking tape to end of stainless steel bend or end cap and handrail brackets prior to coating
2. Stainless steel handrail brackets and bends/returns or end caps may be removed prior to application of clear coating.
3. Using a Cabot's Cabothane Clear or equivalent, apply 3 coats to timber. Coating can either be sprayed or brushed depending on the circumstances. Lightly sand after the first coat. A stain may be applied prior to coating with Cabot's Cabothane Clear.

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 [Connecta Rail with LED Installation Video](#)

Installing Connecta Rail with LED on ramps and stairs where there is raked handrail involved:

STEP 1

Mark all the handrail bracket positions onto the wall.

STEP 2

Install all handrail brackets to wall, (HB02FS) and access wire handrail brackets (HB09FS)

STEP 3

Place all polymer handrail spacers (SPL12) combined with (SPL28) spacer on top of the handrail brackets (HB02FS).

STEP 4

Place polymer wire access handrail spacer (SPL17) on top of handrail bracket (HB09FS).

STEP 5

Install Handrail and cut angles to suit and screw in place temporarily with one screw through the underside of handrail and spacer.

STEP 6

After completing the installation of the timber handrail temporarily, then unscrew and remove and install all the Aluminium u channel, wiring harnesses with polymer spacers, LED light strip and diffusers as per the normal instructions in the above details.

STEP 7

Reinstall the handrail on to the handrail brackets and finalise all connections and diffuser installation as per the normal instructions in as set out in previous details.

Congratulations, you have now completed your Connecta Rail with LED lighting installation!

