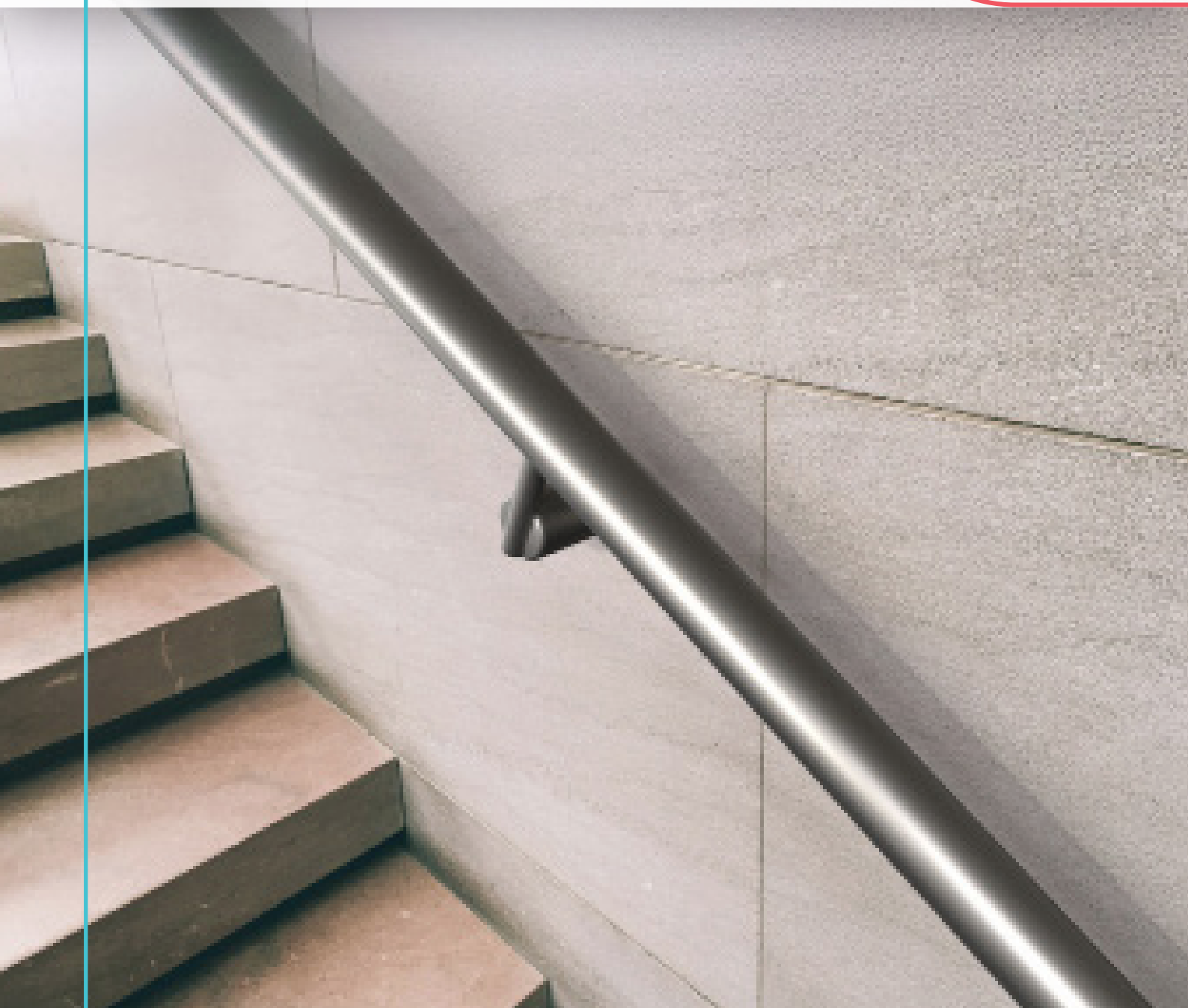


promenaid



DESIGN & INSTALLATION GUIDE

VERSION 1.2 | MAY 2026



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1.0 GENERAL INFORMATION

1.1 Introduction

Promenaid is a modular, pre-finished aluminium handrail system for residential and commercial settings, suitable indoors and out. Featuring a sleek, durable, and straightforward component design, Promenaid simplifies the installation process and reduces installation time.

The Channelgrip handrail profile allows discreet accessory mounting and optional integrated LED lighting. The Sprocketlock system offers versatile bracket and bend configurations to suit your application.

NO.	PROMENAIID PART NAME	ACCESSORIES INCLUDED
Channelgrip Handrails (enquire for rails per lineal metre - cut to size)		
1	Handrail 1800mm	Vinyl Anti-slip Insert
	Handrail 2400mm	
	Handrail 3600mm	
	Handrail 4880mm	
Sprocketlock™ Bends		
2	0 Degree Extender Collar (25mm)	Sprocket, Plugs & Fixings
3	5 Degree Bend Kit	
4	14 Degree Bend Kit	
5	32 Degree Bend Kit	
6	90 Degree Bend Kit	
Connectors		
7	2x Rail Connector (rail to bend)	Fixings
8	Sprocket (bend to bend) Part of #2, 6-10, 11 & 15	Fixings, O Ring
9	Splice Kit (rail to rail)	Fixings, Rigid Vinyl Insert
10	Sprocketlock L Wall Bracket (rail to wall)	Rosette, Fixings, O Ring
Ends		
11	ADA Wall Return/End Cap	Rail Connector, End Cap, Fixings, Plugs
12	Flush Endcap	Fixings
Wall Accessories		
13	Rosette 48mm	O Ring
14	Rosette 83mm	
Glass Mounting Kits		
15	Glass Mounting Kit	Rosettes, Bolt, O Ring, Sprocket, Plug, Cap
Channelux™ LED Modules		
16	Channelux LED Module (Flood™) IP65 rated	Wiring comes with 660mm of cable, Screws
17	LED Driver (24W) - For 12 Modules	Wiring, Connector, Plug
18	Optional Inline LED Dimmer for 24W Driver	Remote
19	LED Dimmable Driver (40W) - For 23 Modules	Wiring - requires a mains power cable and plug to be purchased separately
	LED Dimmable Driver (60W) - For 34 Modules	
	LED Dimmable Driver (100W) - For 50 Modules	



1.2 Important Documents

In addition to this guide, PSP also supply the following documents to assist with the Promenaid specification, installation, and maintenance:

- The Minor Variation form (where a consented product is to be substituted with Promenaid)
- The BPIR Declaration
- Warranty - refer to PSP Terms & Conditions [Paragraph 16. Warranties and Liability](#)
- *Manufacturer Warranty - 5 Years Limited*

1.3 Controlled Documents

All documents are controlled. It is important to ensure that the current documents are always used. For documents, refer to www.psp.co.nz.

2.0 APPLICATION AND SCOPE

2.1 Scope of Use

- Promenaid is intended as handrail support for stairs, ramps, walkways, balconies, and corridors in residential, commercial, and public settings, suitable for both interior and exterior installations.
- Where the installation will occur in private or public settings that align with NZBC accessibility and safety requirements, Promenaid must be installed in accordance with [NZBC D1/AS1, Section 6](#).
- Promenaid may be installed in a vertical, horizontal, or diagonal orientation on a vertical substrate.
- PSP provides components and installation instructions for Promenaid to be wall-mounted and fixed to a timber structure that complies with the building code or to an existing structure that has the equivalent stiffness of the framing provisions for [NZS 3604:2011](#).. Promenaid can also be mounted to glass for balustrade support.
- Promenaid must be installed with the proprietary integrated accessories, corners, bends, and optional LED lighting.

2.2 Limitations

- Not suitable for fixing to aluminium, steel, concrete, or masonry unless fasteners specified by a qualified engineer. Ensure all fixings go into a stud or nog. If screwing into metal studs, ensure a 300mm long timber block is fitted into the steel stud to enable the handrail bracket to be screwed in securely.
- All Promenaid components are proprietary; use of third-party fittings or modifications may compromise performance and compliance.
- **CAUTION: An electrician may be required!** PSP advises that the Promenaid LED lighting modules can be installed by a DIY person but all mains connections must be installed by a qualified electrical professional.

3.0 DESIGN

3.1 Building Consent Application

Where the specification of Promenaid is part of a building consent application, the following documentation must be submitted:

- This Design & Installation Guide
- The BPIR Declaration

3.2 Specification

Promenaid is intended for internal and external use, it is suitable for wall-mounted applications.

Substrate

The Promenaid must be fixed through the substrate to a timber structure that complies with the New Zealand Building Code (NZBC) or to an existing structure that has the equivalent stiffness of the framing provisions for [NZS 3604:2011](#).

Where Promenaid is to be installed in a wet area e.g. as a shower grab rail, waterproofing is required.

For general guidance, refer to [BRANZ BULLETIN Issue 518](#). [December 2009] Wet Area Tile Waterproofing and [BRANZ Build 157](#). [December 2016] Penetrations in Wet Areas.

Promenaid Installation

Promenaid handrails are installed using brackets attached to walls (or glass balustrades).

Handrail lengths are joined along the layout using connectors and bends, with all components secured by screws and concealed with screw caps for a clean, continuous appearance.

Anti-slip vinyl inserts are fitted into the underside of the handrails, and handrail terminations are finished with end caps.

Optional Channelux lighting can be integrated as required.

3.3 Product Substitution

Where Promenaid is to be used as a substitute for the consented product, the following documentation must be supplied to the building inspector before installation of the Promenaid:

- The Minor Variation Form
- This Design & Installation Guide
- The BPIR Declaration

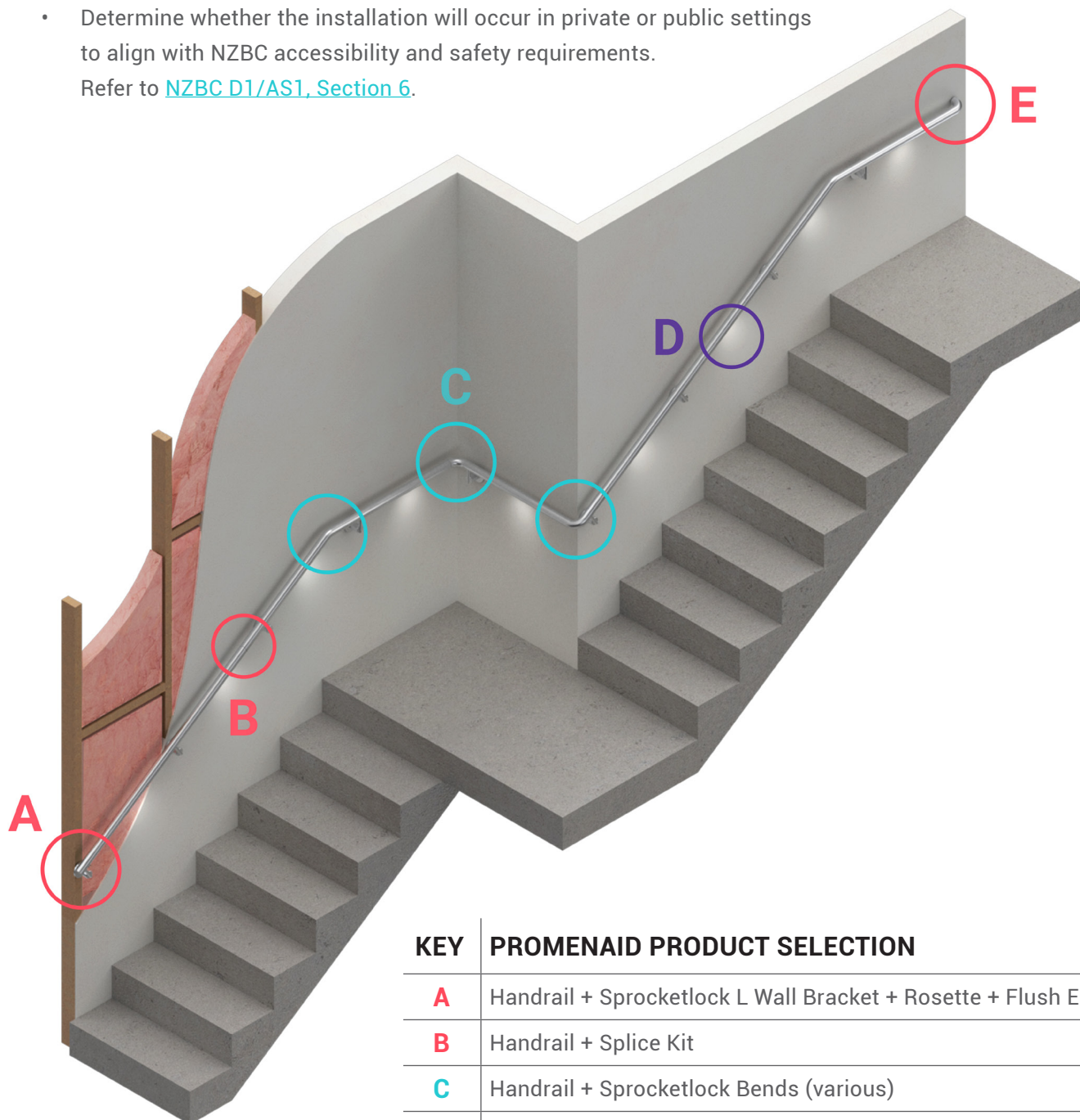
4.0 PLAN THE LAYOUT

Planning the layout at the beginning of the project will ensure that the final installation of Promenaïd will create the desired appearance. It will also ensure less wastage and faster installation.

STEP 1: Evaluate the Installation Area

- Identify all areas where handrails are needed: straight runs, corners, staircases, and landings.
- Confirm that structural members are timber framing only. For any other substrate (e.g. masonry, metal, or plasterboard), consult a structural engineer for advice on appropriate fixings.
- Determine whether the installation will occur in private or public settings to align with NZBC accessibility and safety requirements.

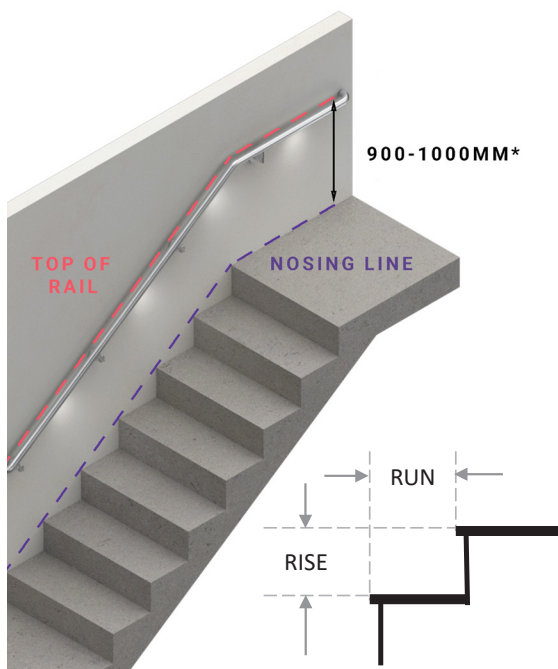
Refer to [NZBC D1/AS1, Section 6](#).



KEY	PROMENAID PRODUCT SELECTION
A	Handrail + Sprocketlock L Wall Bracket + Rosette + Flush End
B	Handrail + Splice Kit
C	Handrail + Sprocketlock Bends (various)
D	Handrail + LED Module
E	Handrail + Wall Return End Cap

STEP 2: Measure and Mark Reference Heights

- Refer to Promenaid Measuring Resources: <https://promenaid.com/documents-guides/>



- As per NZBC Acceptable Solution D1/AS1, set the top of the handrail 900 mm - 1000 mm above the floor or stair nosing.
**Tip: For private settings, adjust the handrail height above stair nosing as necessary to suit the height of the user(s).*

For stair applications, determine the pitch of the nosing line by calculating angle of the rise/run and align your rail accordingly.

Stair	Maximum pitch	Maximum riser height (mm)	Minimum tread (mm)
Service, minor private	47°	220	220
Secondary private	41°	200	250
Common and main private	37°	190	280
Accessible	32°	180	310

Refer to [NZBC AS/D1, Table 6 and Figure 11](#).

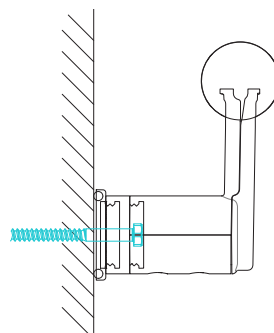
- Measure and calculate the total linear length required across all segments.

To ensure components are properly aligned and sit flush, mark the handrail height consistently along the entire route, adjusting only for slopes or stair angles.

STEP 3 : Plan for Bracket Positions

- Use a stud finder to confirm locations of timber studs behind the wall.

Plan all bracket positions so that fixings penetrate centrally into the timber studs.



Note: Sprocketlock L-bracket max spacing 1200mm

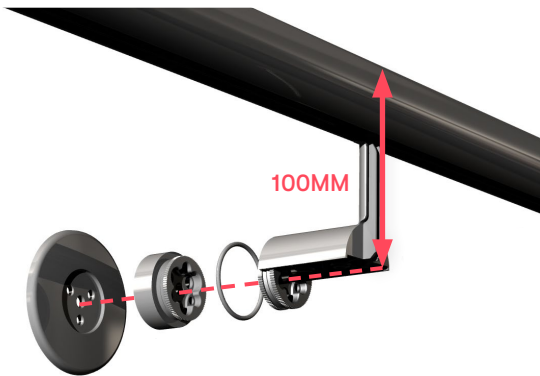
STEP 4: Handrail Sections and Connections

- Break the layout into manageable sections:
 - For runs longer than 4800mm, plan for splice connectors.
 - Include allowance for endcaps or 90° wall returns where needed.
 - For directional changes, plan and select appropriate bends based on pitch or corner type.
- For stair transitions or winders, select bend components where required

STEP 5: Pre-Position and Dry-Fit Components

- Begin at one end of the handrail and mark the center position of the first Sprocketlock L-Bracket on the wall. Hold the rail in the desired position and mark the center holes for the remaining sprockets on the wall.

Tip: When marking the positions of Sprocketlock L Wall Brackets, dry-fit the components to determine sprocket placement; ensure the center screw hole is 100 mm below the top of the handrail.



5.0 PREPARATION

5.1 Safety and Tools

Keep Safe

Follow simple health and safety practices:

- Create a safe working environment that is well organised, tidy, and clear of obstructions.
- Always ensure PPE is worn (eye protection, gloves, dust mask, and safety footwear).
- Always operate tools and equipment strictly in accordance with the supplier's manuals.
- Regularly service tools and equipment to ensure efficient and correct operation.
- Where possible, work in an area that is well ventilated or where mechanical dust extraction is possible. This is especially important if cutting or drilling.
- Where working at height, ensure the correct selection and use of safety gear.

For further information, refer to the latest resources at www.worksafe.govt.nz:

- Managing Health and Safety.
- Small Construction Sites, The Absolutely Essential Health and Safety Toolkit.

Skills and Tools

Competent DIYer skills and standard carpentry tools are required to install Promenaid. The following tools will help to simplify installation:

- Safety Glasses
- Cordless Driver
- Screwdriver
- Carpenter Square
- Circular Saw
- Tape Measure
- Spirit Level
- Marker



Electric Shock Hazard: An electrician may be required where there is risk of touch voltage.

5.2 Handling and Storage

- * Take care when transporting and storing Promenaid components to prevent damage.
- * Lift components carefully, avoid sliding them on the coated/anodised surface to prevent denting or scratching.
- * Store in a dry area out of direct sunlight.

5.3 Prepare Substrate

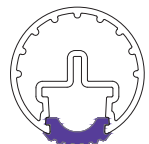
Ensure that the substrate is level, true, and fixed soundly to the framing. Check that the substrate surface is clean, dry, and free of contaminants.

Note: Installing Promenaid on an uneven substrate may cause joiners or connections to be misaligned.

5.4 Cut Promenaid Component

Select the appropriate Promenaid components and accessories, then proceed to measure, mark, and cut the necessary lengths.

Clamp the extrusion securely, then cut with a standard mitre saw.

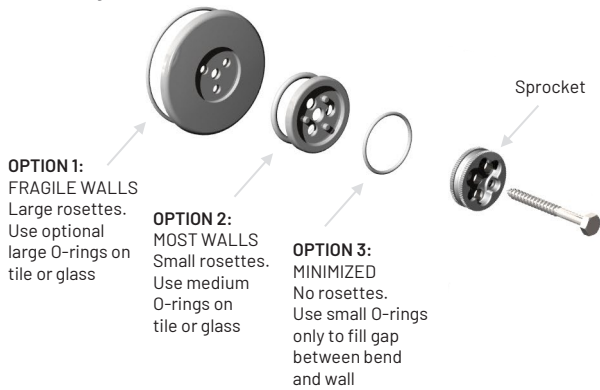


Before trimming handrails, remove the **anti-slip** vinyl. Cut the vinyl to length with a sharp knife or scissors and press it back into place upon install.

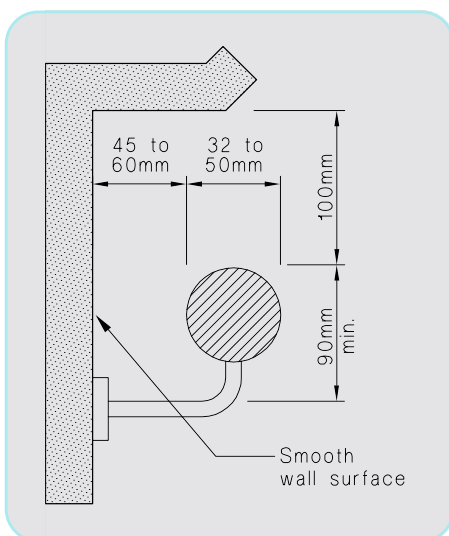
6.0 INSTALLATION

6.1 Attach Sprockets to Wall

Drill 4.8mm pilot holes centrally into the wooden studs and fix sprockets to the structural member using the proprietary lag screws, tightening securely.



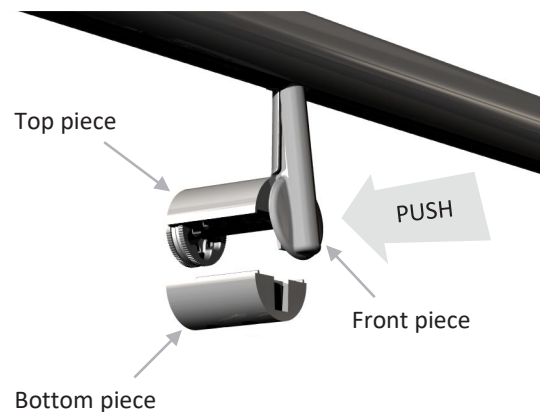
- **Option 1:** For fragile walls (e.g. plaster or thin tile), sandwich large rosettes between sprocket and wall. Install large O-rings on tile or glass, or where a water seal is required.
- **Option 2:** For most walls, use small rosettes. Install medium O-rings on tile or glass, or for a water seal.
- **Option 3:** For flangeless effect*, install no rosettes and use small O-rings to fill the gap between the bend and wall.



*Ensure your design complies with the 45 - 60mm rail to wall clearance as per [NZBC D1/AS1, Fig.26](#).

6.2 Sprocketlock L Wall Brackets

▶ WATCH: <https://www.youtube.com/watch?v=lcEu1vRAI40>



STEP 1: TOP PIECE

After attaching Sprockets to the wall, position the top piece of each bracket on top of the Sprockets.

STEP 2: POSITION HANDRAIL

Set the handrail in place, resting temporarily on the top pieces of the brackets

STEP 3: FRONT PIECE

One by one, insert the front piece of brackets at an angle and slide upward until bracket head is fully in channel.

Lever the bottom of each front piece towards the wall. Push firmly until it clicks into place

STEP 4: BOTTOM PIECE

Slide the bottom piece upward into place and insert the socket screws. The screws should thread easily.

STEP 5: FIX AND PLUG

Tighten the socket screws securely. When all pieces are assembled and installation is complete, insert plastic plugs.

Note: Ensure ALL screws are fully tightened. Once plugs are inserted, they cannot be removed.

6.3 Splice Kit (rail - rail)

► WATCH: <https://www.youtube.com/watch?v=x81Q5RU213c>

STEP 1: CHECK KIT PARTS

Confirm the kit includes the plastic alignment extrusion, stainless steel U-channel, and set screws.

Note: Ensure both handrail sections that are being joined are clean and free of debris before assembling.



STEP 2: ALIGN THE HANDRAIL SECTIONS

Insert the plastic extrusion into one handrail section, matching the grooves with the internal bumps.

Repeat for the second section, then push the two sections together until fully seated for a smooth, continuous surface.

STEP 3: FIX THE U-CHANNEL

Place the stainless steel U-channel inside the underside channel of the handrail. Secure it with three set screws on each side, tightening evenly for a rigid connection.

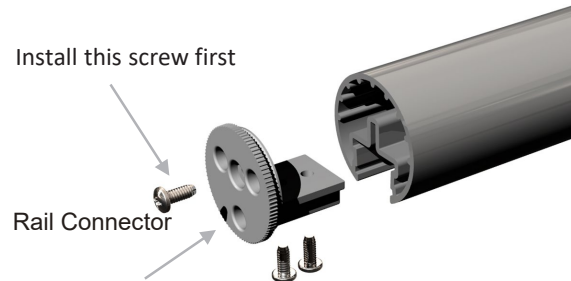
STEP 4: INSTALL HANDRAIL

Install the spliced handrail where required.

Tip: When installing on the wall, offset the pilot holes; left-side sprockets slightly to the right and right-side sprockets slightly to the left. This will pull the sections together during tightening, reducing any visible joint gap.

6.4 Rail Connector (rail - bend)

► WATCH (1:40): <https://youtu.be/ptOTktWJ-hA?t=100&si=pwMUra6-Z3-R7ktk>



STEP 1: Slot the Rail Connector into the handrail tubing.

STEP 2: Install a single screw on the face of the Rail Connector first and tighten securely.

STEP 3: Install the two set screws side-by-side under the handrail and tighten securely.

6.5 Sprocketlock Bends

Note: Ensure ALL screws are fully tightened. Once plugs are inserted, they cannot be removed.

Single Bend

STEP 1: Ensure a Rail Connector are present at each handrail face required in the bend.

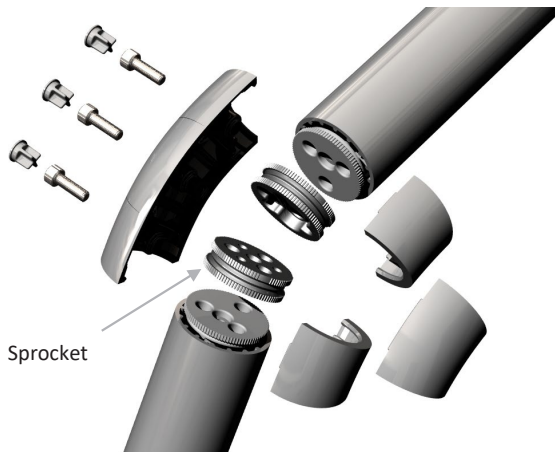
STEP 2: Clamp two halves of the bend together with a socket screw. The screws should thread easily.

STEP 3: Tighten the socket screw securely. When all pieces are assembled and installation is complete, insert plastic plugs.



Multiple Bend

▶ WATCH (3:25): <https://youtu.be/ptOTktWJ-hA?t=205&si=BF5Rt58tVaL8GJsH>



STEP 1: Combine bends to achieve desired angle.

STEP 2: Join bends together with Sprockets, making sure that Sprocket V-grooves align equally with both bends.

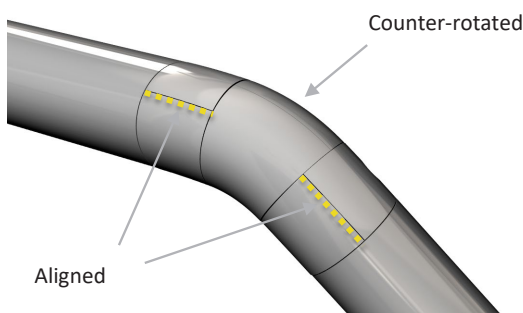
STEP 3: Clamp halves of bends together with socket screws.

STEP 4: Tighten the socket screws securely. When all pieces are assembled and installation is complete, insert plastic plugs.

Adjustable Bend

If you cannot achieve the desired angle with a simple combination of bends, use three bends together to create an adjustable joint.

IMPORTANT: the two outer bends must be identical



STEP 1: Assemble the three bends, but do not fully tighten the socket screws.

STEP 2: Keeping the two outer bends aligned and immobile, rotate the middle bend to achieve desired angle.

STEP 3: When the desired angle is achieved, rotate the entire assembly in the opposite direction until it aligns with the railing tubes.

STEP 4: Tighten the socket screws completely, ensuring that the two outer bends are still aligned with each other.

STEP 5: When all pieces are assembled and installation is complete, insert plastic plugs.

6.6 Handrail Terminations

Flush Endcap

or

ADA Wall Return



Where a handrail terminates, insert your selected endcap into the tube of the handrail.

Where the **ADA Wall Return Kit** is used:

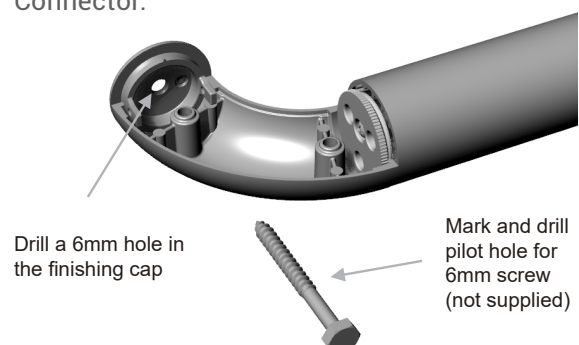
STEP 1: Attach two halves of 90-degree bends together, sandwiching finishing cap at wall end and clamping onto Rail Connector.

STEP 2: Secure the two halves together with socket screws, they should thread easily.

STEP 3: Tighten screws securely. When all pieces are assembled and installation is complete, insert plastic plugs.

Optional Wall Attachment Configuration:

Drill a 6mm hole in the finishing cap, then screw fix the cap into the wall. Clamp the bend halves with socket screws to the cap and Channelgrip Connector.



6.7 Channelux LED Lighting

▶ WATCH: <https://www.youtube.com/watch?v=X7h8H1WCjqA>

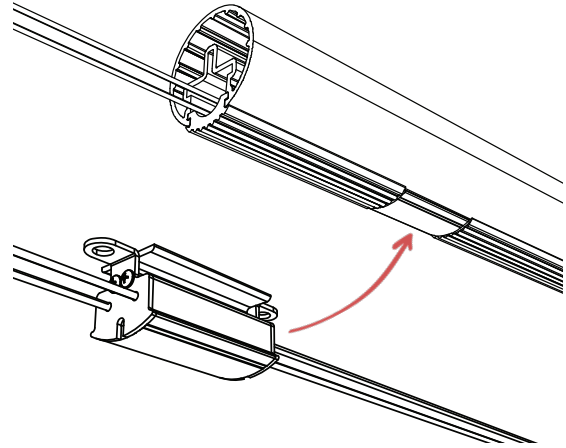
Channelux LED modules can be installed anywhere along the length of the handrail. They fit flush inside the channel, connect together in a 'daisy chain' and can be powered by low voltage wires. The modules are suitable for indoor or outdoor use.

STEP 1: PLACE THE MODULES

Insert the LED modules into the underside channel of the handrail at the locations where lighting is required. Ensure the rib on the lens faces the wall.

STEP 2: CONNECT THE WIRES

Join the LED modules together by matching the red wires to red and the black wires to black. The power can be connected at any module along the run. Any wires that are not being used should be capped securely.



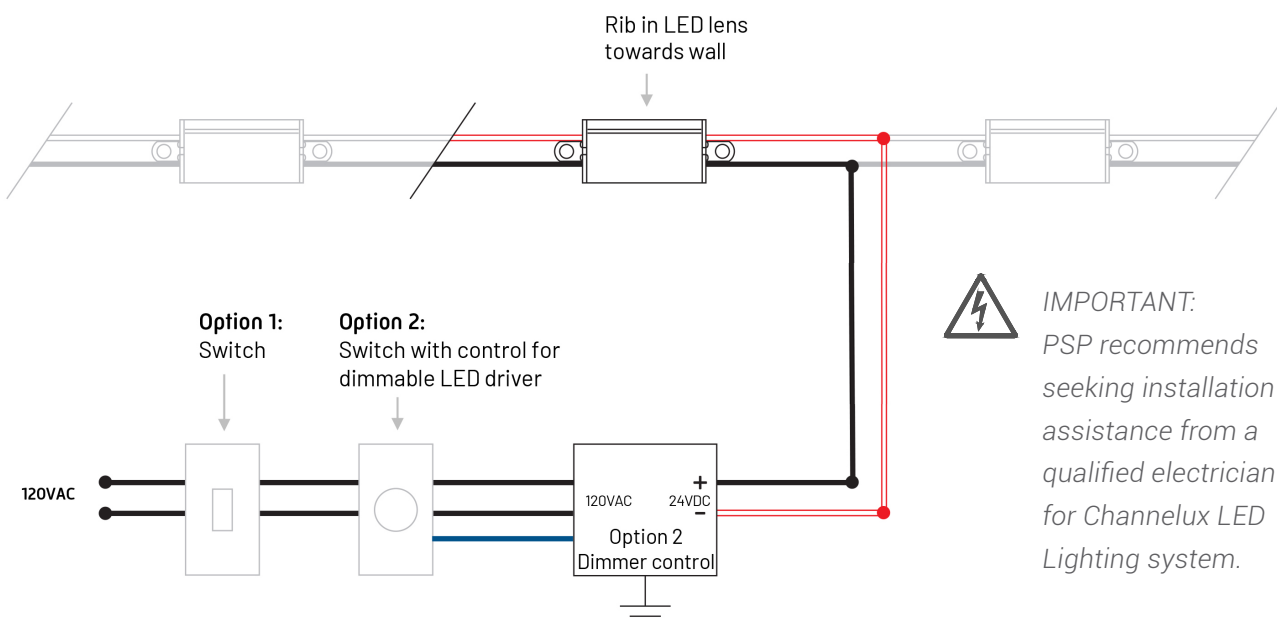
STEP 3: CHOOSE THE CORRECT DRIVER

Select the power source/driver according to the total number of modules installed: 24W driver for up to 12 modules; 40W driver for 1–23 modules; 60W driver for 23–34 modules; 90W driver for 34–50 modules.

Note: where more than 50 modules are installed, add additional driver(s) to handle the load. If unsure, seek advice from a qualified electrician.

STEP 4: PICK A CONTROL OPTION

(1) Simple on/off switch. (2) LED Dimmer Inline; Dimmer switch used only with dimmable drivers.



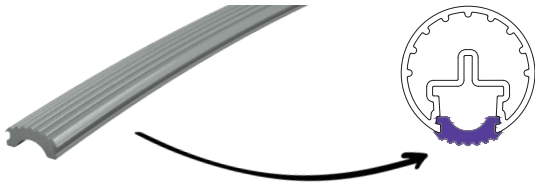
STEP 5: TEST AND FINISH

Once all connections are made, test the LED modules to confirm they are working correctly. Complete the install by trimming and installing the aluminum insert over the channel to protect the wiring.

6.8 Install Anti-slip Vinyl Insert

▶ WATCH: https://www.youtube.com/watch?v=pm_LUzSMgHY

Complete your Promenaid Handrail system by installing the Handrail Vinyl Inserts into the channel running along the underside of the rail



STEP 1: MEASURE AND CUT THE VINYL

Measure the distance between endcaps and between each fixture (bracket/LED module) along the channel. Cut the anti-slip vinyl insert to the required lengths using a sharp knife or scissors.

STEP 3: FIT THE VINYL INTO THE CHANNEL

Pinch the vinyl slightly so it fits into the channel. The small catches on each side of the vinyl align with a smaller groove inside the channel. Rock the vinyl side to side to fit it into place.

STEP 4: WORK ALONG THE RAIL

Continue rocking and pressing the vinyl along the channel until it is fully seated from end to end. The finished profile should remain perfectly round, with a comfortable rubberized grip.

Tip: If working outdoors in cold conditions, warm the vinyl with a hairdryer to make it more flexible and easier to fit.

6.9 Glass Mounting Kit

▶ WATCH: <https://www.youtube.com/watch?v=Stl3VmRalow>



7.0 CARE AND MAINTENANCE

Clean Promenaid using a soft cloth and a mild, non-abrasive detergent. For caked-on deposits, use a sponge, or a soft bristle brush.

Tip: On anodised finishes, remove smudges using standard glass cleaners or a diluted vinegar solution (1:3 ratio of vinegar to water).

For disinfection purposes, use bleach or hydrogen peroxide with maximum concentration 0.6%.

Note: Do not use harsh cleaning products such as thinners, turpentine, white spirits, citrus-based, cutting compounds, or other abrasive cleaners.

Vinyl anti-slip inserts should be inspected for signs of wear, displacement, or damage. Gently clean inserts with a mild, non-abrasive detergent and water, avoiding excessive force that could compromise their grip or positioning.

7.1 Frequency of Maintenance

In high-use or public areas, inspect the Promenaid system monthly. Ensure all the fixings and components are well fitted. In homes or light-use areas, check every 3 to 6 months.

Cleaning should be scheduled more frequently in coastal and industrial areas; once a month, rinse