

ARCHI-LINE

ARCHITECTURAL ALUMINIUM SOLUTIONS



Aluminium Battens by



KNOTWOOD™
Stunning Aluminium

DESIGN & INSTALLATION GUIDE

VERSION 1.4 | SEPTEMBER 2025

PSP MATERIALS
PRODUCTS
SOLUTIONS

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1.0 GENERAL INFORMATION

1.1 Product Overview

Archi-Line Battens by Knotwood are an Australian-made aluminium system with options to suit every application. Available in over 20 shapes and sizes that can be used with a series of batten extenders, spacers, and backing systems.

Archi-Line Battens feature a durable, hard-wearing powder-coated finish, achieved through a revolutionary sublimation process that creates realistic timber textures or solid hue finishes with minimal colour change over time. The advanced printing technology ensures natural, non-repetitive woodgrain patterns that closely mimics real timber.

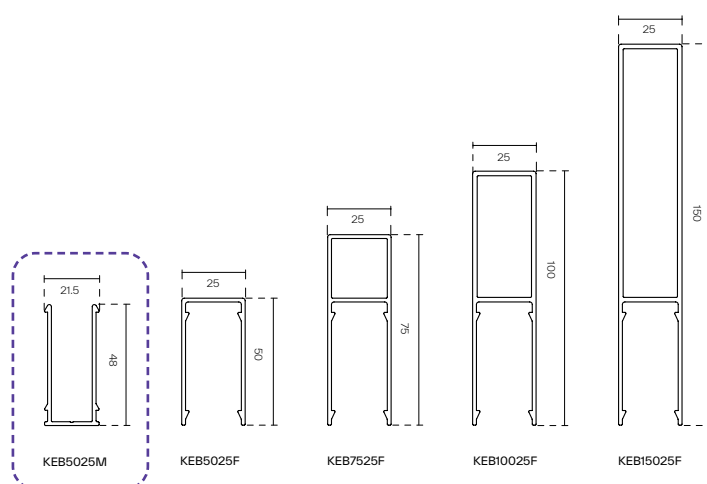
For PSP's stocked range of size and colour options, see the [Archi-Line Battens Brochure](#).

2-Part Batten Suites	Stocked Range (mm)	Indent Range (mm)
	Length: 5650	Length: 5650 or 6500
25mm Suite	50x25	75x25, 100x25, 150x25
50mm Suite	50x50, 100x50	54x50 (Oval), 80x50 (Angle), 150x50, 150x50 (Elliptical), 200x50, 200x50 (Elliptical)
Slimline Battens Suite		25x25, 32x32, 40x40
Wide Battens Suite		25x50, 25x75, 25x100, 25x150,

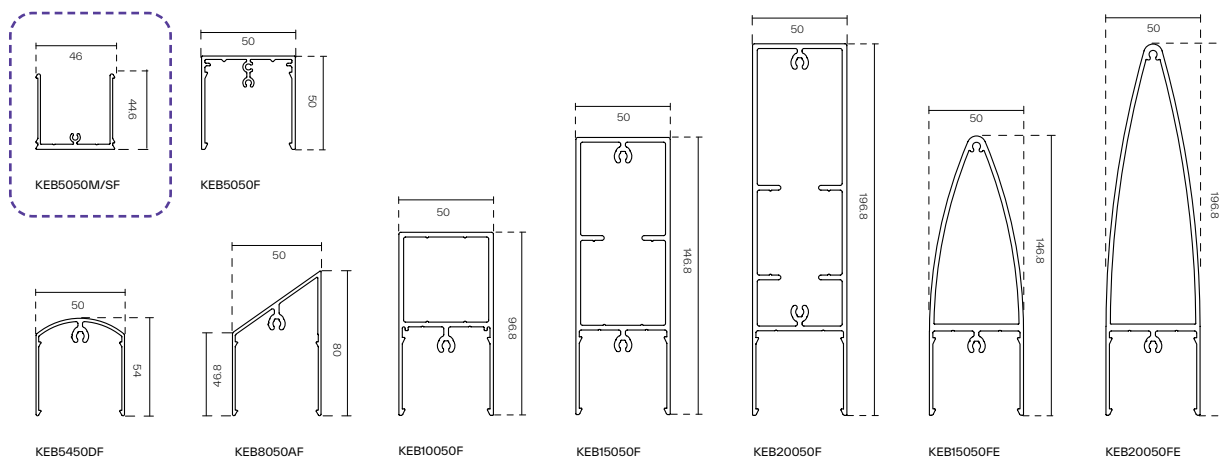
To explore the extended product range (incl. Mounting Tracks, Batten Clips, Batten Spacers, Self Mating Batten Suite) available on indent, see the [Knotwood Clip Battens](#).

2 Part Batten Profile Drawings

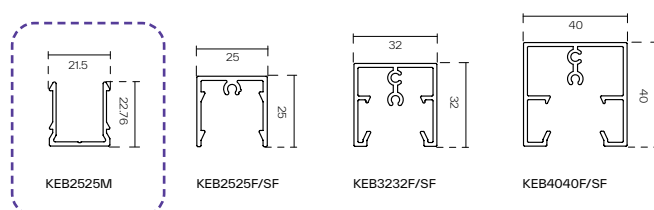
25MM SUITE - 1x **Male Bracket** offers 4x Female Batten length options for clipping on.



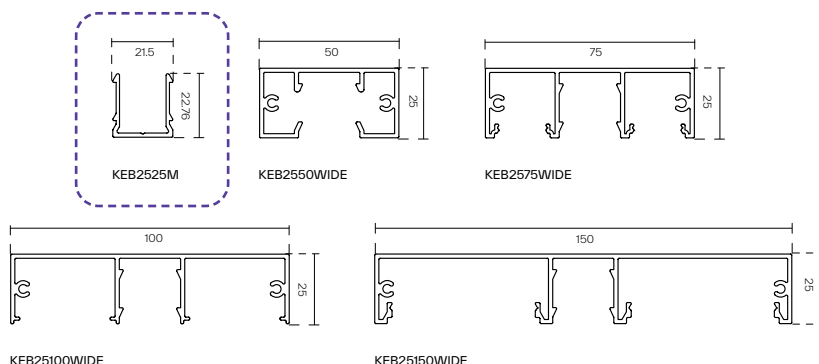
50MM SUITE - 1x Male Bracket offers 8x Female Batten length options for clipping on.



SLIMLINE BATTENS SUITE - 1x Male Bracket* offers 3x Female Batten length options for clipping on.



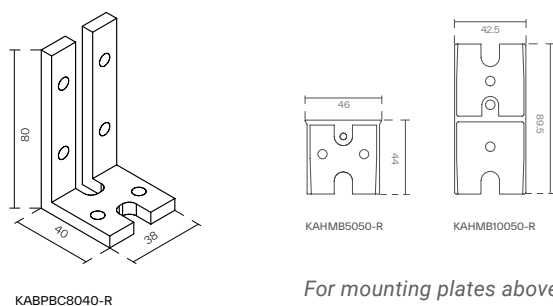
WIDE BATTENS SUITE - 1x Male Bracket* offers 4x Female Batten length options for clipping on.



* Same Male Bracket for both Slimline and Wide Batten Suites

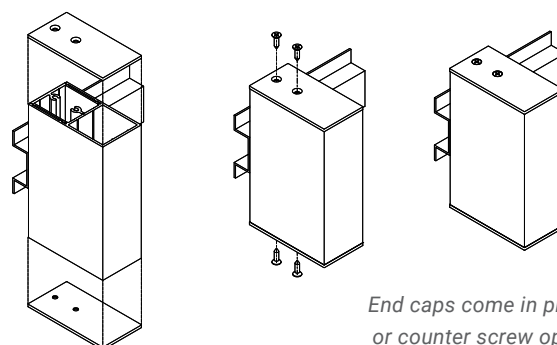
Accessories Range

MOUNTING PLATE - Fixed to floor and ceiling.



For mounting plates above, please seek advice from PSP.

END CAPS - Battens may be finished with end caps.



End caps come in press-fit or counter screw options.

1.2 Important Documents

This Design & Installation Guide covers the scope of use, products, fixing, and maintenance guidelines for Archi-Line Battens.

In addition to this guide, PSP also supply the following documents to assist with the Archi-Line Battens specification, installation, and maintenance:

- Technical Details
- The BPIR Declaration

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

- Archi-Line is suitable for use as decorative battens on internal/external walls, ceilings, and louvre applications.
- Archi-Line Battens may be installed in a vertical, horizontal, or diagonal orientation.
- Archi-Line Battens can be fixed directly to the substrate or mounted on a subframe (top hat). Archi-Line is suitable for use on the following substrates; Timber, Aluminium, Steel, Concrete, and Masonry.

Note: PSP does not endorse the installation of Archi-Line onto substrates without appropriate structural support. See minimum requirements in Section 3.0 Design.

- Archi-Line Battens is intended for use in wind zones up to Extra High as defined in [NZS 3604:2011](#). Refer to the Fixing Requirements and Span Tables specified in Section 3.0 Design.

Note: PSP has not tested the Archi-Line Batten system for noise. We cannot confirm if your selected batten setup causes noise in certain wind conditions. Wind performance should be assessed through project-specific engineering or testing.

- Archi-Line Battens are suitable for use where Group Number 1-S is permitted.
- Archi-Line is supplied with proprietary aluminium components and accessories designed to withstand exposure conditions in all environmental zones specified in [NZS 3604:2011](#), Section 4.2, including coastal and corrosive environments. Cleaning schedules are required to be more frequent in corrosive areas. Refer to Section 6.0 Care and Maintenance.

Note: Fixings and subframe components are not supplied by PSP. Please refer to the product manufacturer information to ensure they comply.

2.2 Limitations

- Archi-Line battens are non-structural and must not be used as a load-bearing element.
- Installation must allow for thermal expansion/contraction in accordance with PSP technical guidance.
- Not suitable for use in environments exposed to atmospheric conditions contaminated with chemical fumes or other corrosive elements. Product is not meant for marine use on boats, ships, or within of a body of salt water or offshore platforms.
- Not to be installed horizontally in standing water.
- Not suitable for building heights exceeding 20m.

2.3 Building Code Regulations

If designed and installed as per PSP technical documentation, Archi-Line will comply with or contribute to compliance with the following provisions of the New Zealand Building Code (NZBC):

Code Clauses	Performance
B1 Structure	B1.3.1, B1.3.2, B1.3.3 (a, h, j, q)
B2 Durability	B2.3.1 (b)
C3 Fire affecting areas beyond the source	C3.5, C3.6, C3.7 (a)
F2 Hazardous Building Materials	F2.3.1

3.0 DESIGN

Archi-Line Battens are non-structural, intended for internal/external, vertical, horizontal, and diagonal wall, ceiling, and louvre applications.

3.1 Building Consent Application

Where the specification of Archi-Line Battens is part of a building consent application, the following documentation must be submitted:

- This Design & Installation Guide
- The BPIR Declaration

3.2 Product Substitution

Where Archi-Line Battens are to be used as a substitute for the consented product, the following documentation must be supplied to the building inspector before installation of the Archi-Line Battens:

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

3.3 Specification

It is the specifier's responsibility to ensure that:

- The details in this specification are appropriate for the intended application, and
- Additional detailing is obtained for a specific design or any areas that fall outside the scope of use.

Ensure all New Zealand Standards referenced in this Archi-Line Battens Design & Install Guide are current edition and complied with.

3.4 Design Considerations

IMPORTANT: READ ME FIRST

- PSP provides typical Archi-Line Technical Details for general guidance. When fixing through finished claddings, consult the cladding manufacturer for specific guidance on fixing penetrations and managing moisture.
- Where required, engage a superstructure designer to ensure supporting structure can cater for additional loads from battens.

Substrate

Archi-Line Battens may be installed on an existing or new structure or substrate of either timber, aluminium, steel concrete or masonry.

The substrate must be fixed to a structure that complies with the minimum requirements for supporting members as specified below:

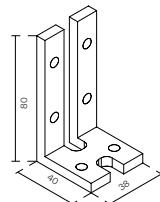
SUBSTRATE	MINIMUM REQUIREMENTS FOR SUPPORTING MEMBER
TIMBER ^A	• Minimum grade SG8 (wet timber appropriate provided relevant treatment used in accordance with NZS 3602: 2003) • LVL (LVL 8 minimum grade) • Glulam (GL8 minimum grade)
ALUMINIUM	• Minimum grade 6063, T5 and 3 mm thick
STEEL ^A	• Light Gauge Steel - Minimum Fy = 500 MPa and BMT = 0.55 mm • Structural Steel - Minimum Fy = 250 MPa and 2 mm thick
CONCRETE OR MASONRY	• Concrete - Minimum 20 MPa, 100 mm thick • Masonry Block - Minimum 20 MPa Grout Fill, 15 series block

Archi-Line Battens Fixing Requirements

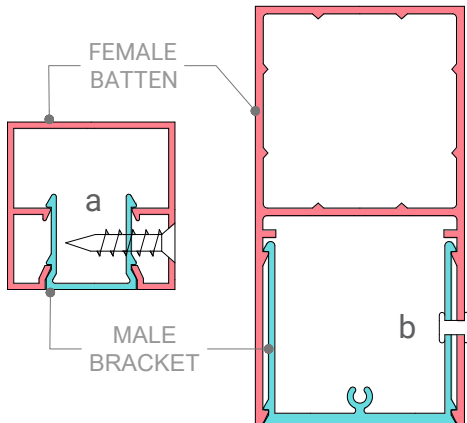
Archi-Line Battens are a series of 'fix and clip' systems. The male bracket component can be fixed directly to the substrate, mounted on a subframe (top hat), or to a base mounting plate as per the table below.

ALL CONNECTION TYPES	Direct Fixed	Subframe Fixed	Base Mounting Plate
SUBSTRATE	FIXING REQUIREMENT (REFER TO DETAILS)		
TIMBER	2x 12G Stainless Steel T17 Screws - Length to achieve 40mm penetration into supporting timber.		
ALUMINIUM	2x 12G Stainless Steel Self-tapping Screws - Length to fully penetrate substrate (with 2 full threads).		
STEEL	2x 12G Stainless Steel Self-tapping Screws - Length to fully penetrate substrate (with 2 full threads).		
CONCRETE/ MASONRY	1x Ramset Trubolt Xtrem M8 with min. 50mm embedment into concrete/grout fill OR 1 no. Hilti HUS4-H with min. 50mm embedment into concrete/grout fill.		

For floor to ceiling applications, the base mounting plate is fixed to the substrate, then to the male bracket.

CONNECTION TYPE	FIXING REQUIREMENT	
BASE MOUNTING PLATE TO MALE BRACKET	4x 12G Stainless Steel Self-tapping Screws. Length to fully penetrate batten (with 2 full Threads).	

Once the male bracket is securely fixed, the female batten is clipped on and the parts are mechanically fixed.

MECHANICAL FIXING	FIXING REQUIREMENT	
MALE BRACKET TO FEMALE BATTEN	a. 1x 12G Stainless steel countersunk screw OR b. 1x No. 4 (3.2mm Ø) Aluminium pop rivet <i>Note: at least one mechanical fixing is required per batten length.</i>	

Archi-Line Battens Installation

IMPORTANT: The table of maximum spans are based on structural factors. However, wind exposure may cause resonance and noise. To minimise noise, PSP recommends reducing fixing spans as much as possible when installing battens on solid substrates. Installers must assess site conditions and adjust fixing methods as needed.

Archi-Line Battens can be fixed in three ways: **Direct** (to the substrate), **Subframe** (to the substrate), or **Base Mounting Plate** (floor to ceiling). Each method must be installed according to the span tables below.

Note: When direct-fixing to a solid substrate or over an open-air space, battens must be secured at points where the substrate is present.

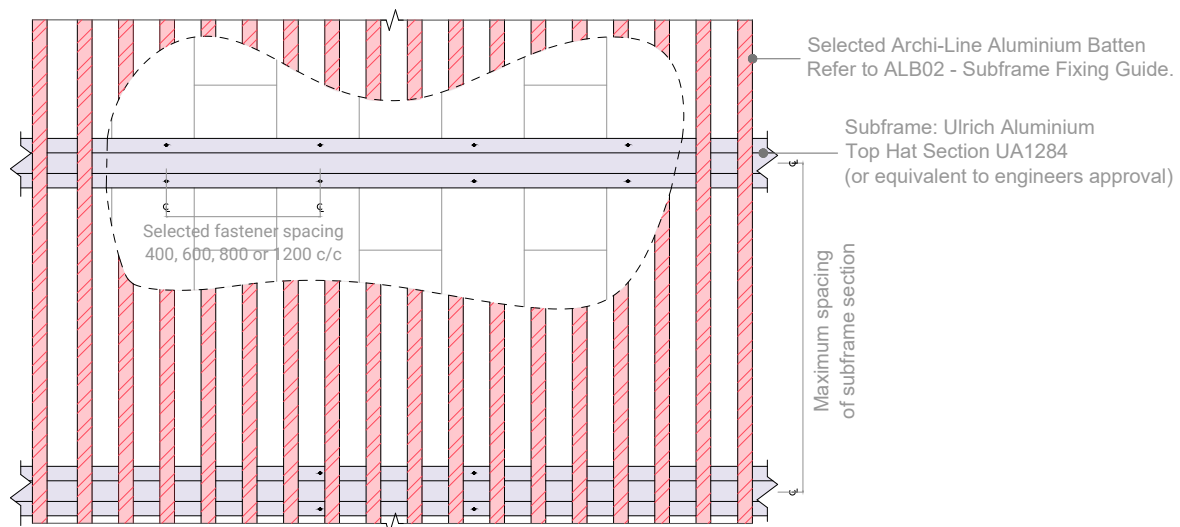
FOR CONNECTION TYPE:	Direct Fixed	Base Mounting Plate
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Maximum Structural Spans for Various Wind Zones			NZS3604 Wind Zones				
Suite	Male Bracket Part Number	Female Batten Part Number	Low 32 m/s	Medium 37 m/s	High 44 m/s	Very High 50 m/s	Extra High 55 m/s
25mm Suite	Male Bracket KEB5025M	50x25 Female KEB5025F	3050 mm	2900 mm	2650 mm	2500 mm	2350 mm
		75x25 Female KEB7525F	3050 mm	2850 mm	2650 mm	2450 mm	2350 mm
		100x25 Female KEB10025F	3050 mm	2900 mm	2650 mm	2500 mm	2350 mm
		150x25 Female KEB15025F	3050 mm	2850 mm	2600 mm	2450 mm	2300 mm
50mm Suite	Male Bracket KEB5050M/SF	50x50 Female KEB5050F	3050 mm	3050 mm	2550 mm	2250 mm	2050 mm
		54x50 Female Oval KEB5450DF	3050 mm	2900 mm	2450 mm	2150 mm	1950 mm
		80x50 Female Angle KEB8050AF	3050 mm	3050 mm	2600 mm	2300 mm	2100 mm
		100x50 Female KEB10050F	3050 mm	3050 mm	3050 mm	3050 mm	3050 mm
		150x50 Female KEB15050F	3050 mm	3050 mm	3050 mm	3050 mm	3050 mm
		200x50 Female KEB20050F	3050 mm	3050 mm	3050 mm	3050 mm	3050 mm
		150x50 Ellpitical KEB15050FE	3050 mm	3050 mm	3050 mm	3050 mm	3050 mm
		200x50 Ellpitical KEB20050FE	3050 mm	3050 mm	3050 mm	3050 mm	2900 mm

Suite	Male Bracket Part Number	Female Batten Part Number	Low 32 m/s	Medium 37 m/s	High 44 m/s	Very High 50 m/s	Extra High 55 m/s
Slimline Batten Suite	Male Bracket KEB2525M	25x25 Female KEB2525F/SF	2000 mm	1750 mm	1450 mm	1300 mm	1150 mm
		32x32 Female KEB3232F/SF	2400 mm	2050 mm	1750 mm	1500 mm	1400 mm
		40x40 Female KEB4040F/SF	3050 mm	2700 mm	2250 mm	2000 mm	1800 mm
Wide Batten Suite	Male Bracket KEB2525M	25x50 Female WIDE KEB2550WIDE	2850 mm	2650 mm	2300 mm	2050 mm	1850 mm
		25x75 Female WIDE KEB2575WIDE	2450 mm	2300 mm	2100 mm	1950 mm	1900 mm
		25x100 Female WIDE KEB25100WIDE	2350 mm	2200 mm	2000 mm	1850 mm	1800 mm
		25x150 Female WIDE KEV25150WIDE	2200 mm	2000 mm	1850 mm	1750 mm	1650 mm

FOR CONNECTION TYPE:	Subframe Fixed
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Max. Spacing of Top Hat Section		NZS3604 Wind Zones				
Suite	Fastener spacing of Subframe	Low 32 m/s	Medium 37 m/s	High 44 m/s	Very High 50 m/s	Extra High 55 m/s
All Suites	400 mm c/c	3050 mm	3050 mm	3050 mm	2600 mm	2200 mm
	600 mm c/c	3050 mm	3050 mm	2300 mm	1700 mm	1400 mm
	800 mm c/c	3050 mm	2400 mm	1700 mm	1300 mm	1100 mm
	1200 mm c/c	2000 mm	1500 mm	1000 mm	800 mm	700 mm



Remember: The maximum spans in this table are based on structural factors. However, wind exposure may cause resonance and noise. PSP recommends reducing fixing spans when installing battens on solid substrates to minimise noise. Installers must assess site conditions and adjust fixing methods as needed.

4.0 PLAN THE LAYOUT

Planning the layout at the beginning of the project will ensure that the final installation of the Archi-Line Battens will create the desired look and feel. It will also ensure less wastage and faster installation.

REMEMBER:

- * If you intend to fix battens through a finished cladding to the structure, consult the cladding manufacturer for specific guidance on fixing penetrations and managing moisture.
- * Consider environmental conditions (eg. coastal zones, industrial zones, fire risk areas, and high wind zones) that may influence installation.
- * Ensure your design complies with the local regulations. If unsure, contact our PSP team.
- * Consider tolerances at batten terminations and joins to accommodate expansion and contraction. Refer to Section 4.1 Expansion and Contraction.

STEP 1 Choose your Archi-Line Batten Suite and select the components to suit your application:

STEP 2 For each application:

- Measure and mark any penetrations or fixtures that will affect the installation.
- Determine orientation and spacing distance between battens. Calculate the lengths and quantities required for your Archi-Line Batten application.
- Ensure allowable fixing spacings as per span tables specified in this guide.

STEP 3 Measure and mark battens to be cut to length.

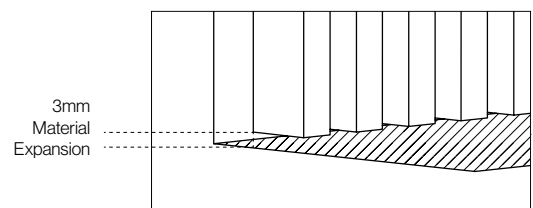
4.1 Expansion and Contraction

Archi-Line Aluminium Components will expand or contract in length with changes in temperature (e.g. a change of 30°C will cause a 6000mm batten to expand or contract 3mm). To mitigate buckling due to thermal expansion, provide a minimum 3mm gap allowance at each end of the battens.

IMPORTANT: Where installed over concrete flooring, a minimum 6mm gap is required between the batten and concrete. This clearance mitigates lime-induced corrosion from close contact with the concrete.

JOINING BATTENS

Where two batten lengths butt together along a span, drill and secure the male bracket to the female batten at the joint using specified fixings. This will limit expansion to the top and bottom of the battens, where a 3mm gap allowance is provided.



Tip: Stagger the Male Bracket profile across the batten length to achieve a straight finish.

5.0 PREPARATION

5.1 Health and Safety

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.
- Disposal of offcuts and sawdust of treated timber, and chemical products such as coatings and adhesives in accordance with the manufacturer's instructions and local council requirements.
- 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 Archi-Line Battens. The following tools will help to simplify the installation:

- Compound Mitre Saw (Aluminium Blade)
- Jig Saw (Aluminium Blade)
- Angle Grinder
- Cutting Wax
- Drill Bits
- Screw Driver
- Tape Measure

5.2 Handling and Storage

- * Take care when transporting and storing Archi-Line Battens to prevent damage.
- * Handle with clean hands or gloves to avoid transferring oils onto the coated surface.
- * Lift extrusions carefully, never slide them on the coated surface.
- * Ensure the packs are stored on a level surface and raised off the ground. Never stack packs higher than three packs.
- * Packs must be kept dry and stored out of direct sunlight.

5.3 Check 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: Archi-Line Battens installed on an uneven surface will result in a warped appearance and may cause finishing trims/joiners to be misaligned.

6.0 CUT ARCHI-LINE

Measure, mark, and cut the Archi-Line components to length using a jig saw, angle grinder or mitre saw with an aluminium blade. To create clean crosscuts and mitre cuts, place extrusion with printed side up and ensure the both ends are clamped securely.

Note: There may be up to 25mm each end that won't have the timber grain image, due to the production process. Check both ends of the batten and trim if necessary.

Prime and Paint Cut Ends

Prime the cut ends of the battens using [Dulux Luxepoxy 4 White Primer](#), then apply a color-matched touch-up paint.

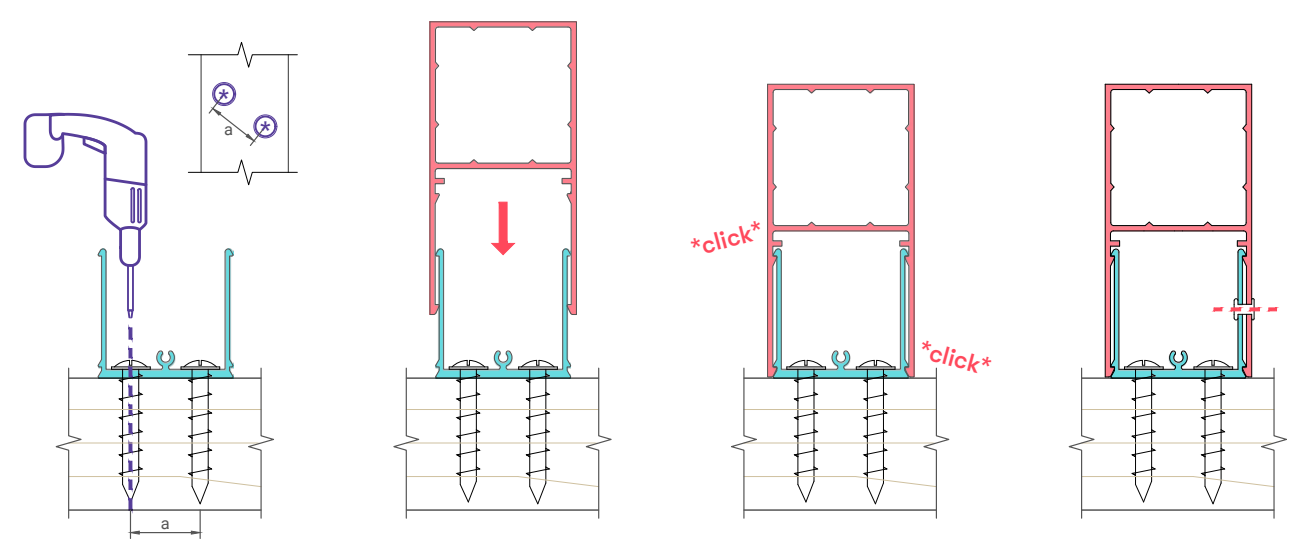
7.0 INSTALL ARCHI-LINE

Refer to **Archi-Line Technical Details** for Direct and Subframe batten fixing guidelines for each substrate.

INDEX: ARCHI-LINE TECHNICAL DETAILS			
Batten Mechanical Fixing Guide		ALB01	
Male Bracket Fixing Guide		ALB02A	
Subframe Fixing Guide		ALB02B	
SUBSTRATE	DIRECT FIX	FIXED TO SUBFRAME	FIXED THROUGH CLADDING*
Timber	ALB03	ALB08	ALB03B ALB08B
Aluminium	ALB04	ALB09	
Light Gauge Steel	ALB05	ALB10	ALB05B ALB10B
Structural Steel	ALB06	ALB11	
Concrete or Masonry	ALB07	ALB12	

*PSP provides typical details only. When fixing through finished claddings, consult the cladding manufacturer.

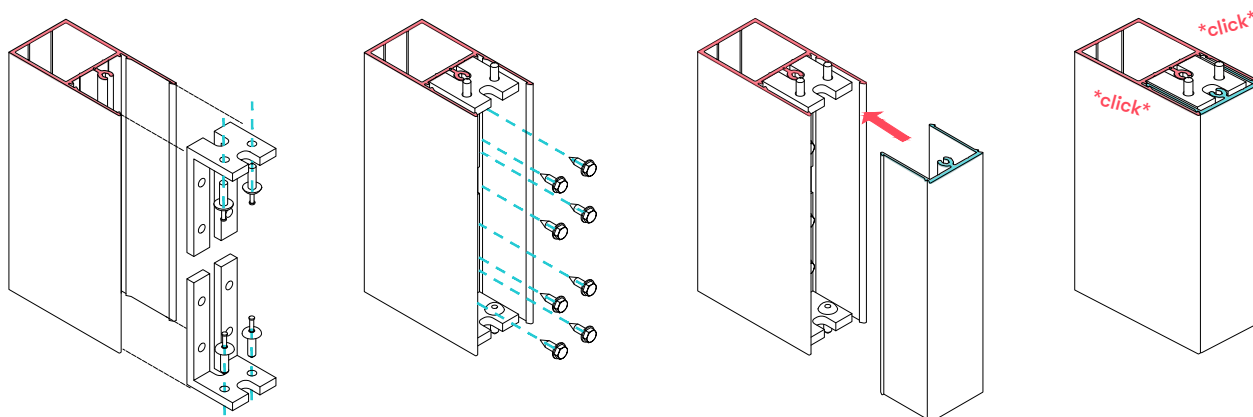
DIRECT FIXED/SUBFRAME FIXED



STEP 1	STEP 2	STEP 3
Fasten the Male Bracket to the substrate/ subframe using the specified screws.	Once the backing clip is firmly fixed in place, click the Female Batten profile onto it. Ensure the Batten and Bracket are securely fitted together.	Mechanically fix batten parts at min. 1 location along the batten.
STEP 4 (OPTIONAL): Battens may be finished with colour-matched aluminium endcaps where required. The end caps come in either press-fit or counter screw options.		

Note: Refer Section 3.4 Design Considerations for fixing requirements

BASE MOUNTING PLATE



STEP 1	STEP 2	STEP 3	STEP 4
Fix the steel base mounting plate to the ceiling and floor with the specified screws, ensuring proper alignment.	Secure the Male Bracket Profile to the mounting plate with the specified screws.	Click the Female Batten profile onto the Male Bracket, ensure they are securely fitted together.	Mechanically fix batten parts at min. 1 location along the batten.
STEP 5 (OPTIONAL): Battens may be finished with colour-matched aluminium endcaps where required. The end caps come in either press-fit or counter screw options.			

7.1 Quality Check

Upon completion, visually inspect all sides of the Archi-Line installation to ensure the batten system has been installed according to the details and with all required gap tolerances. Advise building owner of all maintenance requirements.

8.0 CARE AND MAINTENANCE

Archi-Line Battens should be cleaned when the material surface temperature is below 25°C and not exposed to direct sunlight. Clean battens by hosing down all surfaces to remove any loose residue. For caked-on deposits, use a pH neutral detergent with a cloth, sponge, or a soft bristle brush.

Note: Do not use thinners, turpentine, white spirits, citrus-based cleaners, cutting compounds or other abrasive cleaners. Pressure washing is not recommended.

8.1 Frequency of Maintenance

Under normal urban or rural conditions (low salt and pollution) cleaning should be scheduled at a minimum of 12 months. For internal spaces in low-corrosion environments, a 12 month cleaning schedule is also sufficient. Cleaning should be scheduled more frequently in coastal and industrial areas; it should be done at a minimum of every 3 to 6 months. Refer to the [maunfacturer's warranty](#) for more information.