

KNOTWOOD

WWW.KNOTWOOD.COM.AU

BATTENS



BATTENS

CEILINGS

ACOUSTIC WALLS

DESIGN

INSTALLATION GUIDES

EXTRUSION LIST

TESTS & REPORTS



SALES@KNOTWOOD.COM.AU

1.300.566.896

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Knotwood Battens.

Knotwood's batten systems can create bold architectural statements, stylish sun shields or sophisticated screens.

Our aluminium lengths are the perfect solution for large expanses. They are lightweight, strong and durable.

All Knotwood systems are weather resistant and require no recoating or resealing. They are ideal for hard to reach areas.

Knotwood's batten systems are non-combustible providing a safe and practical solution for all residential and commercial exteriors. Our systems are designed to conceal joins, screws and fixings resulting in a clean and seamless finish.

INTRODUCTION

Read First.

Please read the installation guidelines completely.

The installation techniques in this manual describe and illustrate the steps involved in installing Knotwood Battens. Their purpose is to provide information and how-to tips that will simplify the installation processes. Knotwood will not accept any liability or responsibility under its written warranty for product failure caused by application that does not meet the requirements for proper installation. These requirements are outlined throughout this document.

Before you begin any project, you need to be aware of building code requirements in the geographic areas where you are working, and how the code relates to the instructions given in this manual. You must always observe the requirements of local building codes, as they represent the legal requirements for an installation. The Building Code of Australia (BCA) is contained within the National Construction Code (NCC) and provides the minimum necessary requirements for safety, health, amenity and sustainability in the design and construction of new buildings (and new building work in existing buildings) throughout Australia.

No instruction manual can anticipate all the questions or conditions that might arise during installation. Recognizing this, we've focused on the tools and techniques used to complete typical installations.

The manufacturer has provided these suggested instructions as installation guidelines. The manufacturer, however, neither installs the product nor has any control over the installation. It is the responsibility of the contractor and/or the installer to ensure panels are installed in accordance with these instructions and any applicable building codes. The manufacturer assumes no liability for either improper installation or personal injury resulting from improper use or installation. These instructions are prepared for persons experienced in the field of cladding installation and assume a foundation of working knowledge regarding the required tools and application process.

Knotwood's batten system complies with the requirements of AS1562.1, when installed according to these instructions.

Knotwood has taken due care to prepare the enclosed literature to assist the end user. Knotwood is not liable for any errors and accepts no liability for information which may be misleading or misinterpreted.





CARE & MAINTENANCE

Durability

Knotwood will not rot, warp, crack or peel and has a 15 year limited warranty that complies with Australian Building Standards.

Colours & Colourfastness

Knotwood offers a wide range of colours inspired by nature's natural beauty. Knotwood has been manufactured for use in harsh climates, with minimal colour change over time. The degree of change will be dependent upon the installed situation, and may manifest itself as a lightening of the surface appearance, which will have no impact on the performance of the product.

Coating Characteristics

Knotwood uses a specialised sublimation process together with high quality inks and powders. This process creates a durable, low maintenance coating. This coating is resistant to acids, alkalis, and solvents resulting in superior aging and impact resistance.

Caring for your Battens

The beauty of Knotwood is maintained with little effort. To remove any dirt or grime, a garden hose or pressure washer is generally sufficient.

If absolutely necessary follow these simple instructions:

1. Use a sponge or car washing brush that has soft bristles. Avoid using stiff bristle brushes or abrasive cleaners that may scratch the finish.
2. To remove sediment and grime found in industrial areas, wipe down the batten with a mild detergent (PH-6-7 eg. car detergent).
3. Follow the precautionary label instructions on the cleaning agent container. Protect shrubs and other foliage from direct contact with cleaning agents.
4. Rinse any cleaning solution with water before it dries on the material to avoid streaking.

Replacing Damaged Battens

There may be colour matching issues when new battens are used to replace damaged battens that have been installed for a long period of time. Each production batch can have colour variations due to the sublimation processes.



Warranties

The coating technologies used on Knotwood products meet globally recognized AAMA2604 standards with regards to gloss retention, colour uniformity, weathering durability, humidity resistance, impact resistance and chemical resistance. The Knotwood range of powder coated products are supported by a **15 year performance warranty** on the powder coating - the only one of its kind in the Australian market.

Failure to comply with Knotwood's installation instructions and/or applicable building codes and maintenance schedule may affect product performance and void the product warranty.

*Warranty applies only to aluminium when coated by an Interpon D Approved Applicator. Terms and conditions apply. Contact your Knotwood representative for further details.

INSTALLATION

Knotwood battens are simple to install, however, we recommend using an independent Knotwood installer. Knotwood encourages the installer to read and adhere to all relevant technical information and installation techniques set out in this manual.

Applications

- Knotwood Battens may be installed on an existing structure or substrate of either timber, concrete or steel.
- Knotwood may be installed in coastal zones, fire risk areas and high wind zones. The installer/builder has the responsibility to meet the needs of all Local Building codes for the locality of the installation.

Technical Assistance

For further information on any of the install process please visit www.knotwood.com.au

or alternatively contact:

KNOTWOOD PTY LTD
2/63 Burnside Rd, Stapylton QLD, Australia 4207
1.300.566.896 | sales@knotwood.com.au

Prior To Installation

Before Knotwood battens can be installed, check the existing structure and substrate is constructed and detailed to comply with the relevant regulations.

The design, supply and correct installation of penetrations, eg.. windows, doors etc., are outside the scope of Knotwood's batten system. The designer and builder must ensure that the building, including all drainage holes and integral flashings of all penetrations will prevent rain and water entering behind the batten system and will drain to the outside of the building.

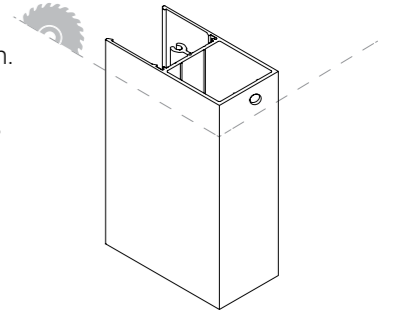
Check first -

Customer/Installers responsibilities.

- Before installing any material, inspect it for breakage, foreign objects, surface defects, correct product, correct colour, and colour consistency.
- Do NOT install any questionable product!
- If you find a defect, contact Knotwood's Support team :
1.300.566.896 | sales@knotwood.com.au
- If you elect to install questionable product and a manufacturing defect is not found to be the source of the problem, any claim may not be honoured.
- Before you install any Knotwood battens, it is important that you have read and understood the information in this guide. Also, be sure to possess the right tools, fasteners, and accessories before you begin.
- OHS (Occupational Health & Safety) requires workers to always use the appropriate PPE (Personal Protection Equipment).

Cut First

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



Tips for cutting.

A proper amount of care, as with any prefinished product, will result in a premium quality installation. We recommend taping the face of the trim saw surface as well as table saw surface to prevent marring and scratching of battens. Cut face up whenever possible, and use touch-up paints to cover cut ends of exposed aluminum.

Preparation

Prior to commencing the installation of Knotwood, ensure that all building wraps, flashing tapes and cavity batten systems are installed to their manufacturer's specifications and requirements.

Air Barriers, Seals & Water Proofing

The Installer/Builder is required to check that all exterior walls, regardless of their location, have the necessary flashings, air barriers, seals and waterproofing sheets to meet the requirements of the BCA.

Level & Straight Substrate

The specification, supply and construction of steel, timber or concrete wall or substrate does not form part of the Knotwood's Batten System. Variations in the strength, stiffness, straightness and squareness of the wall and substrate must be checked and rectified as necessary, before any battens can be installed.

It is very important to ensure that, when you start installing the first batten, that it is perfectly level. The back batten piece may require packing out to rectify any unevenness.

Installing Knotwood on an uneven wall or substrate will cause buckling of battens and protruding of fixing joints.

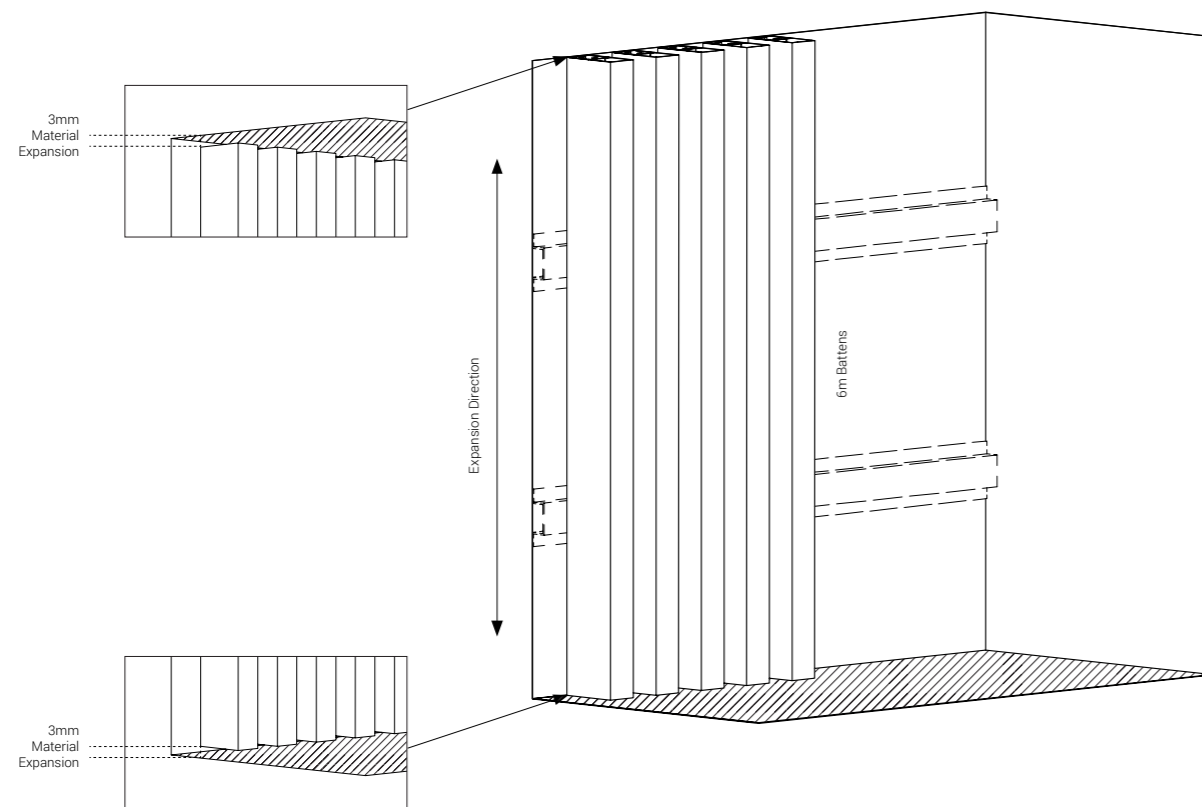
Install Considerations



Expansion and Contracting.

Like all aluminium products, Knotwood will expand and contract at different rates depending on the environment it is installed in. The coefficient of thermal expansion in aluminium will create movement in lengths when exposed to temperature changes. For example, a change of 30°C will cause a 6m batten to expand or contract 3mm. Therefore, it is imperative that Knotwood is installed to allow for both the expansion and the contraction of the material.

If Knotwood battens are confined at each end, the expansion will cause waving or buckling.



NON COMBUSTIBLE

Fire safety is an extremely important consideration for any building. Knotwood is non combustible and achieves a Group 1 fire rating. Knotwood complies to Australian standards AS1530.1, AS1530.3.



BATTENS

CLIP TOGETHER BATTENS

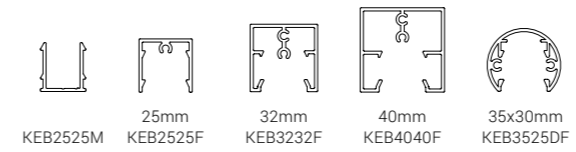
SLIMLINE BATTENS
 25mm BATTENS
 50mm BATTENS
 WIDE BATTENS

COMPONENTS

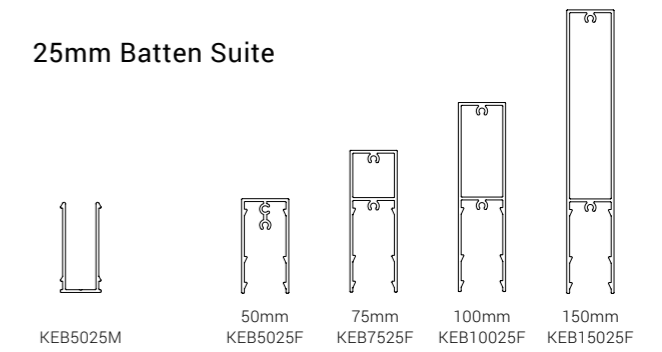


View and download details online at
www.knotwood.com.au/battens

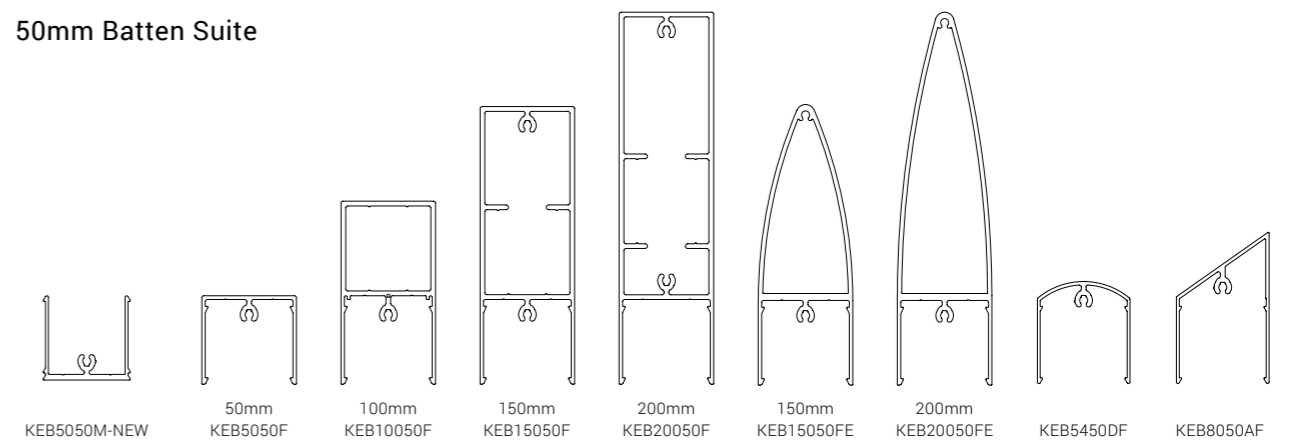
Slimline Batten Suite



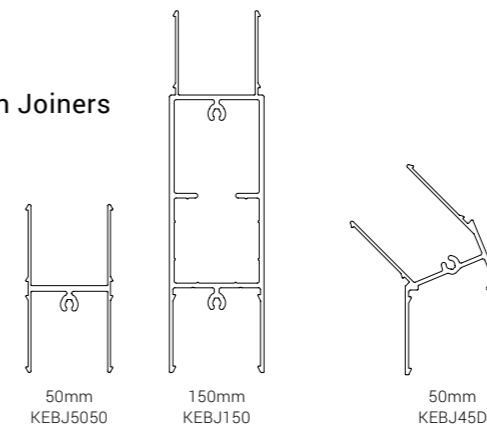
25mm Batten Suite



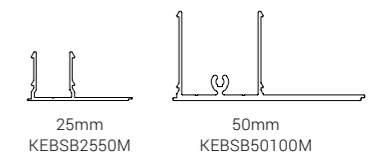
50mm Batten Suite



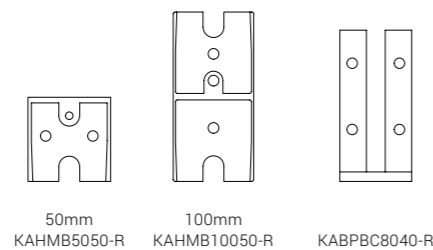
50mm Batten Joiners



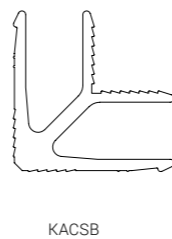
Batten Spacers



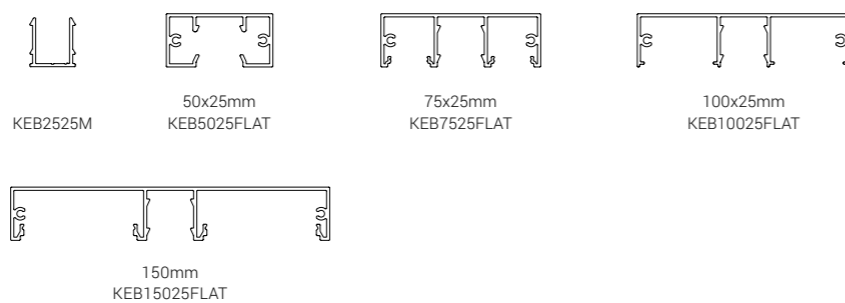
Batten Mounting Plates



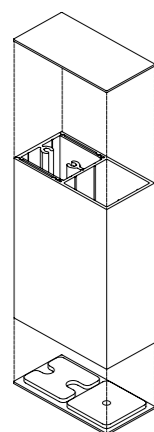
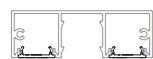
50mm Batten Corner Stake



Wide Batten Suite



Infills



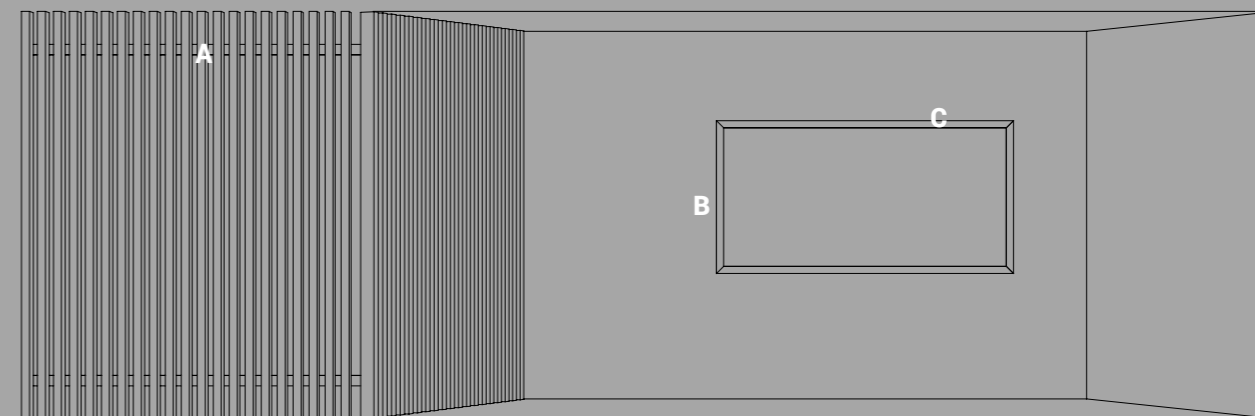
ENDCAPS

Matching aluminium endcaps are offered to suit all batten shapes and sizes. The endcaps are a press fit design. Supply of endcaps with counter sunk screw holes is optional.

CLIP TOGETHER BATTENS

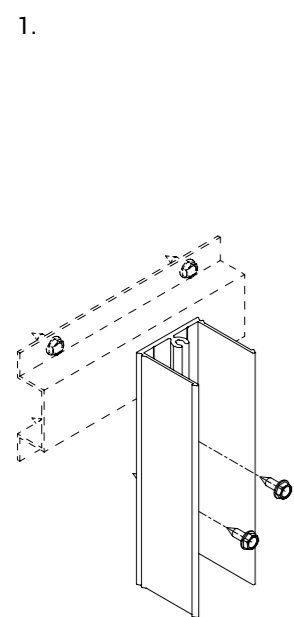
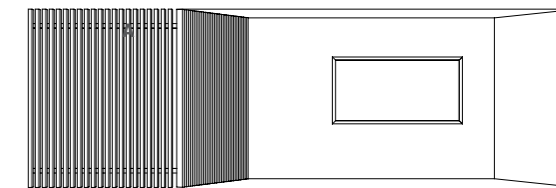
SLIMLINE BATTENS
25mm BATTENS
50mm BATTENS
WIDE BATTENS

INSTALLATION GUIDES

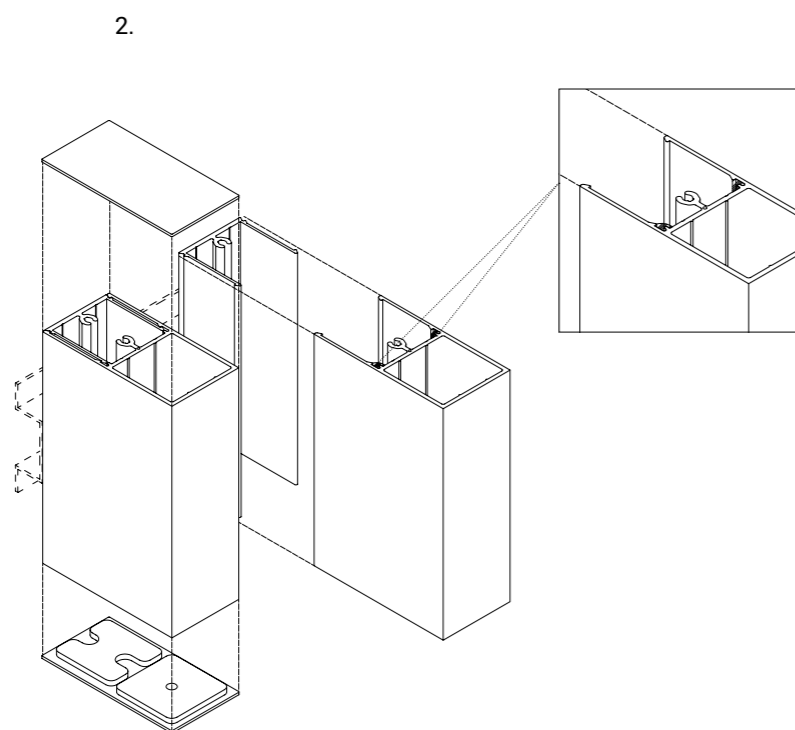


A	BASIC BATTEN INSTALLATION	18
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A | BASIC BATTEN INSTALLATION

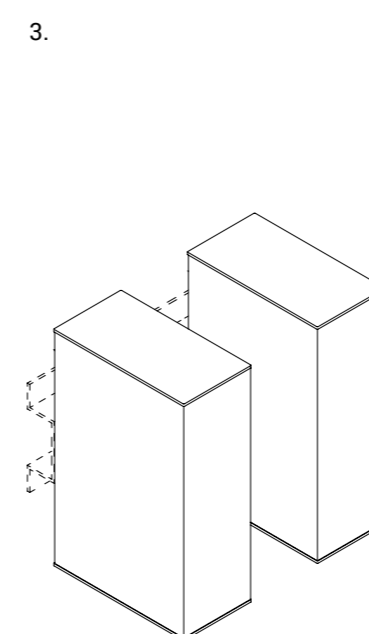


Fix male batten bracket to wall or subframe.

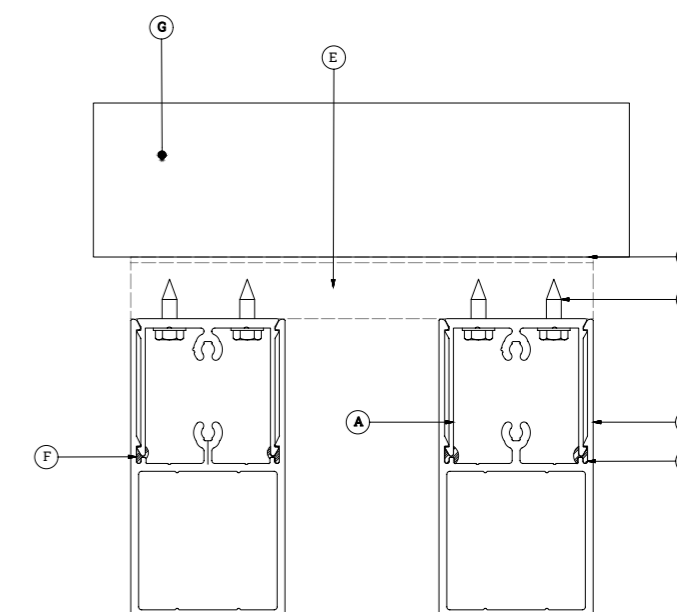


Clip batten in place.

Inset. Before attaching the batten, flexible adhesive should be placed in the corners (>50mm from the ends) of the batten to minimise movement caused by expansion and contraction.

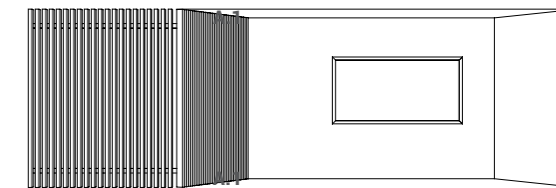


Fit end caps.

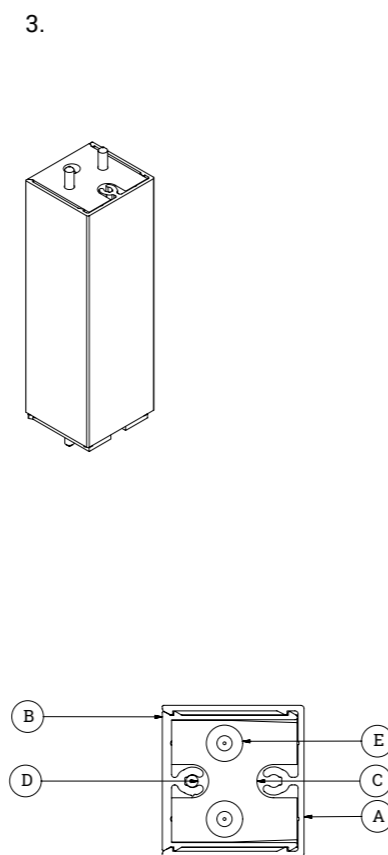
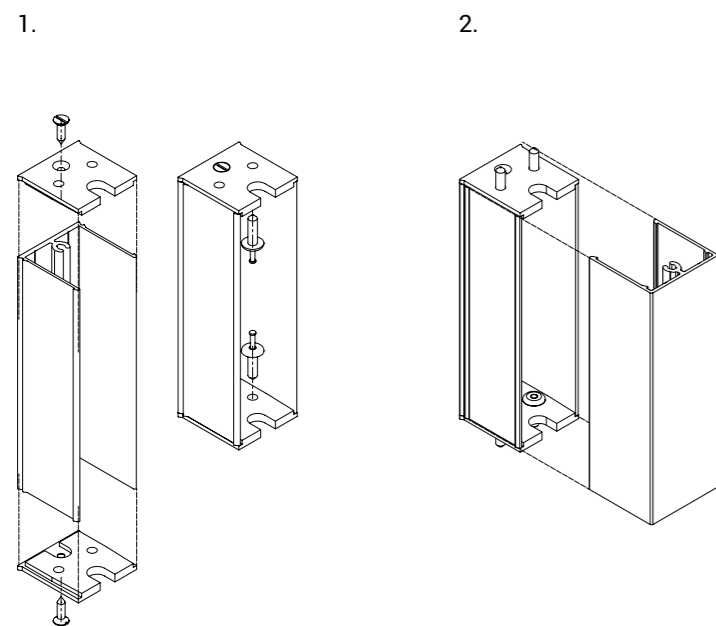


- A. KEB5050M-NEW
- B. KEB10050F
- C. Vapour Barrier / Building Envelope (by other)
- D. Screw (by other)
- E. Top Hat Framing (by other)
- F. Flexible Adhesive (by other)
- G. Building Substructure (by other)

A.1 | BATTENS | FLOOR & CEILING MOUNTING PLATES



50MM

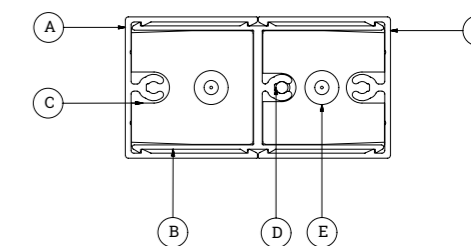
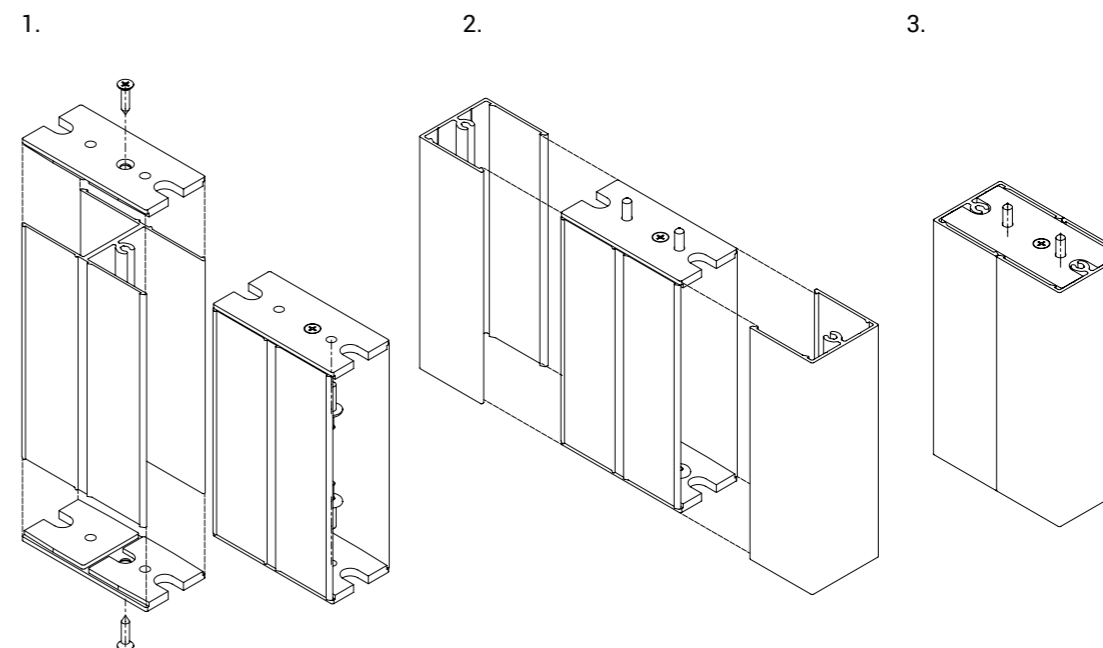


Fasten the mounting plate to the batten bracket. Position and fix top and bottom.

Clip the batten onto the bracket.

- A. KEB5050F
- B. KEB5050M-NEW
- C. KAHMB5050-R
- D. Screw (from other)
- E. Dowel (from other)

100MM

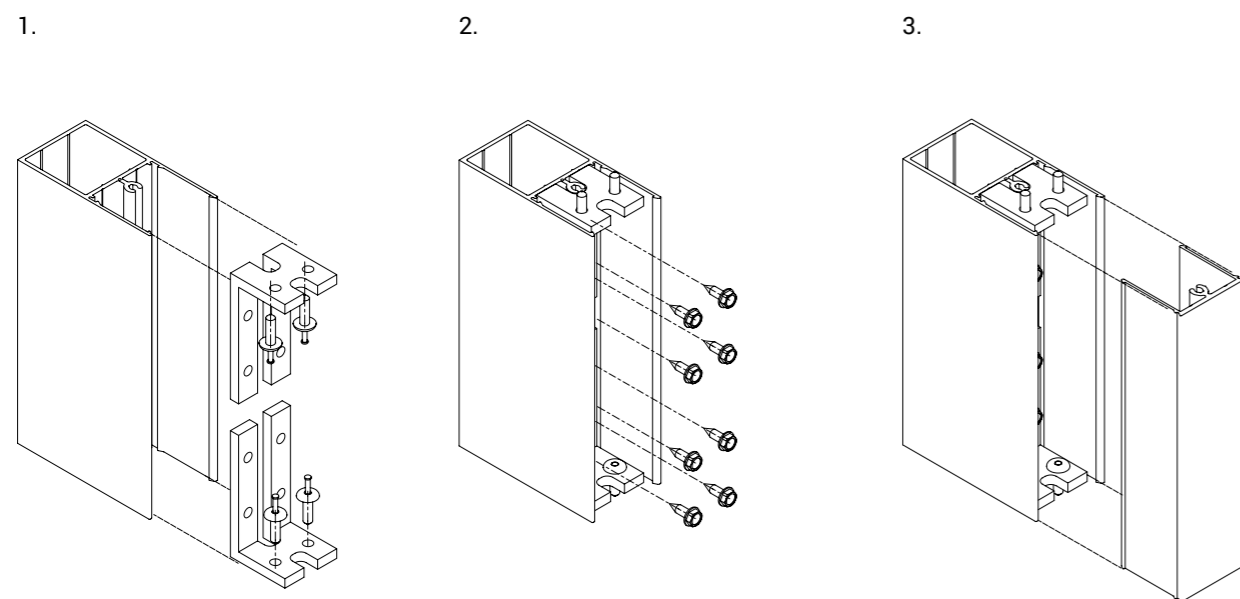
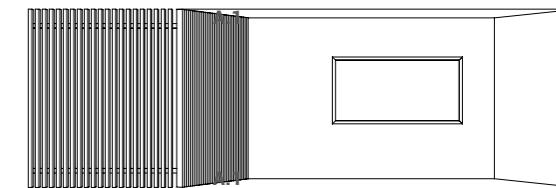


Fasten the mounting plate to the center joiner. Position and fix top and bottom.

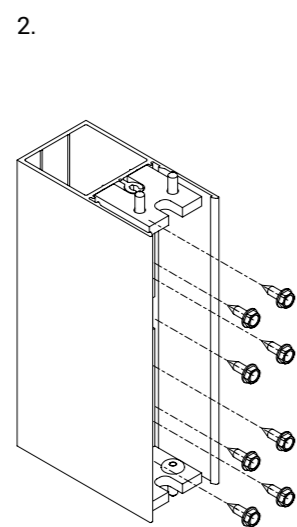
Clip battens onto the center joiner.

- A. KEB5050F
- B. KEBJ5050
- C. KAHMB10050-R
- D. Screw (from other)
- E. Dowel (from other)

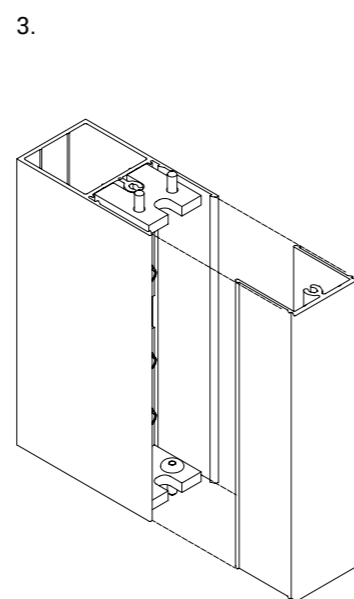
A.1 | BATTENS | FLOOR & CEILING MOUNTING PLATES



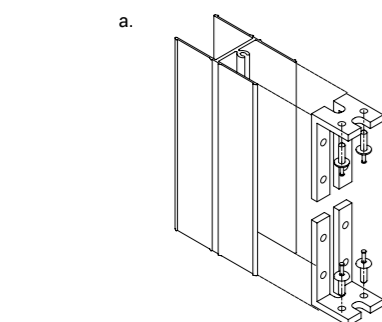
1. Position mounting plates and fix top and bottom.



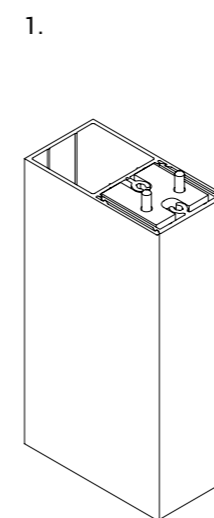
2. Fasten the batten to the mounting plate.



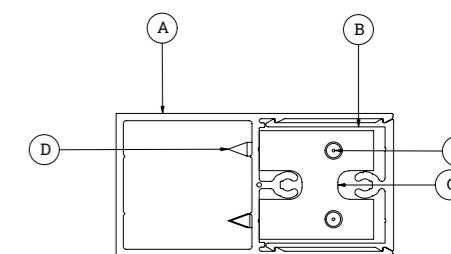
3. Clip the batten onto the bracket.



a. Installation process is the same for the Batten Joiners.

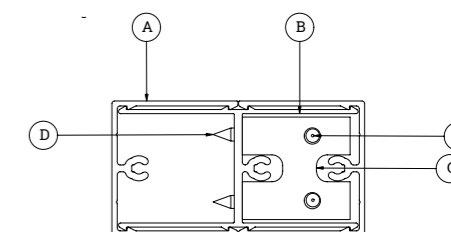


1. Completed installation showing concealed mounting plates and screws.



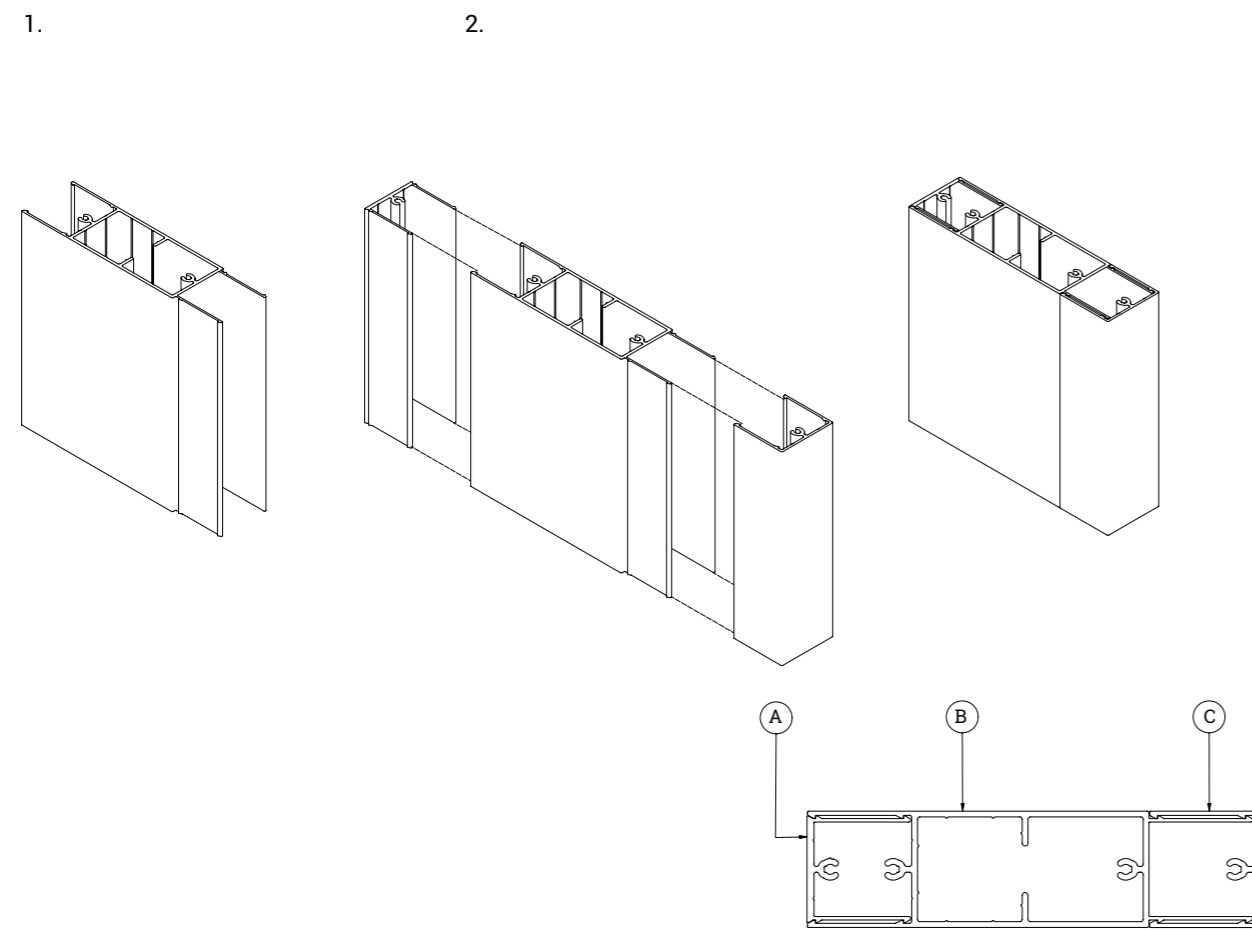
- A. KEB10050F
- B. KEB5050M-NEW
- C. KABPBC8030-R
- D. Screw (from other)
- E. Dowel (from other)

Batten Joiner



- A. KEB5050F
- B. KEBJ5050
- C. KABPBC8040-R
- D. Screw (from other)
- E. Dowel (from other)

A.2 | BATTENS | JOINERS



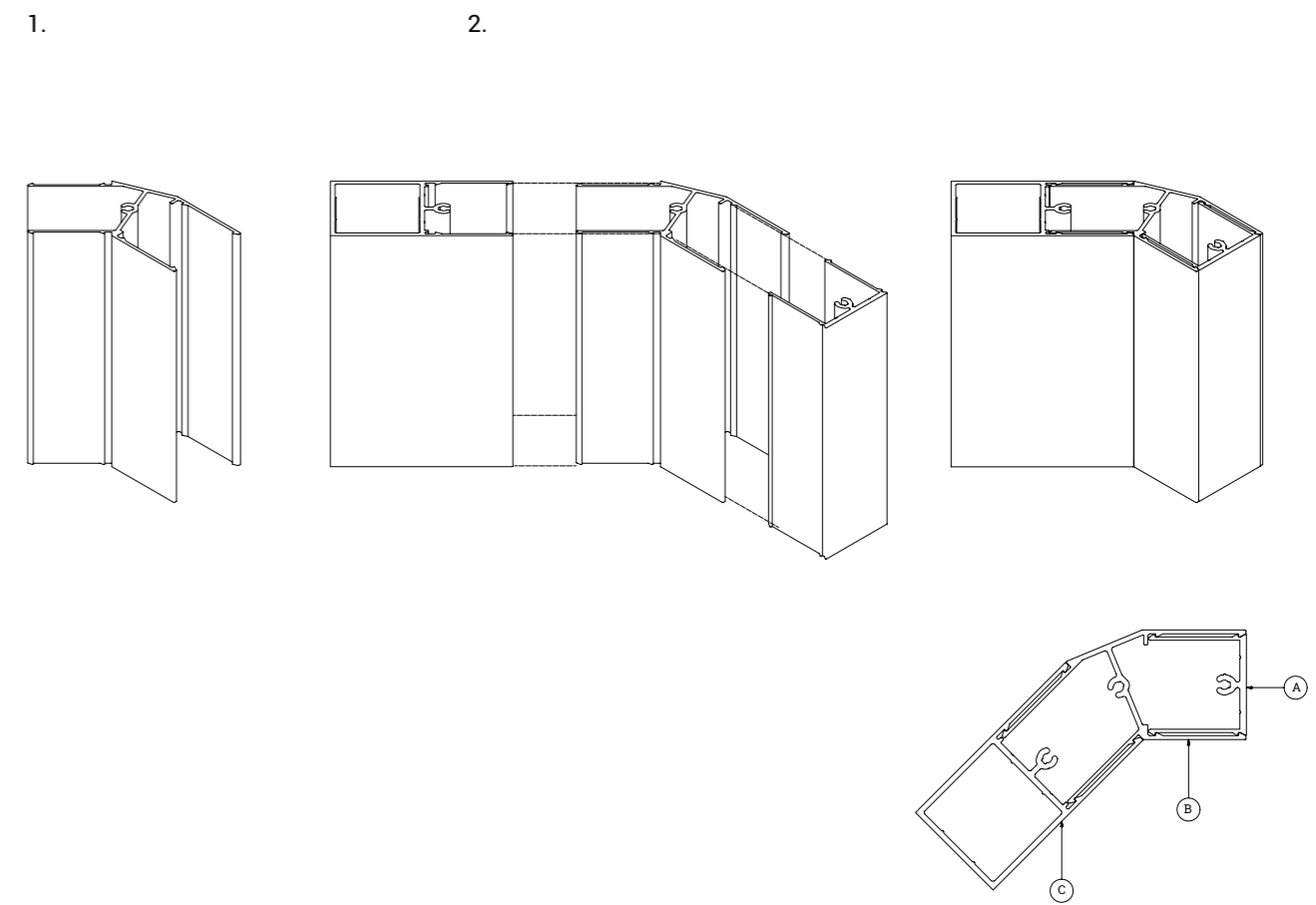
1. Cut bracket, 150mm joiner, batten and bracket to required length.

2. Fix batten bracket to wall or subframe.
Clip 150mm joiner onto bracket, then clip batten onto 150mm joiner

- A. KEB5050M-NEW
- B. KEBJ150
- C. KEB5050F

50MM & 150mm Use same installation principles.

A.2 | BATTENS | 45° Angle JOINER

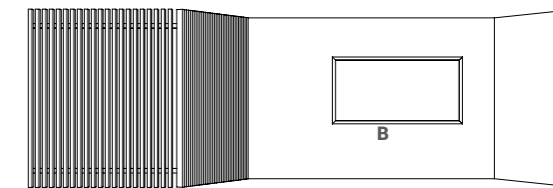


1. Cut bracket, 45° joiner and batten to required length.

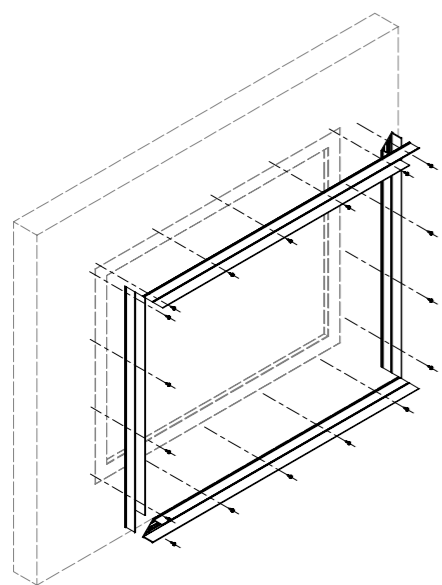
2. Fix batten bracket to wall or subframe.
Clip 45° joiner onto bracket, then clip batten onto 45° joiner

- A. KEB5050M-NEW
- B. KEBJ45D
- C. KEB10050F

B | BATTEN | WINDOW BOX

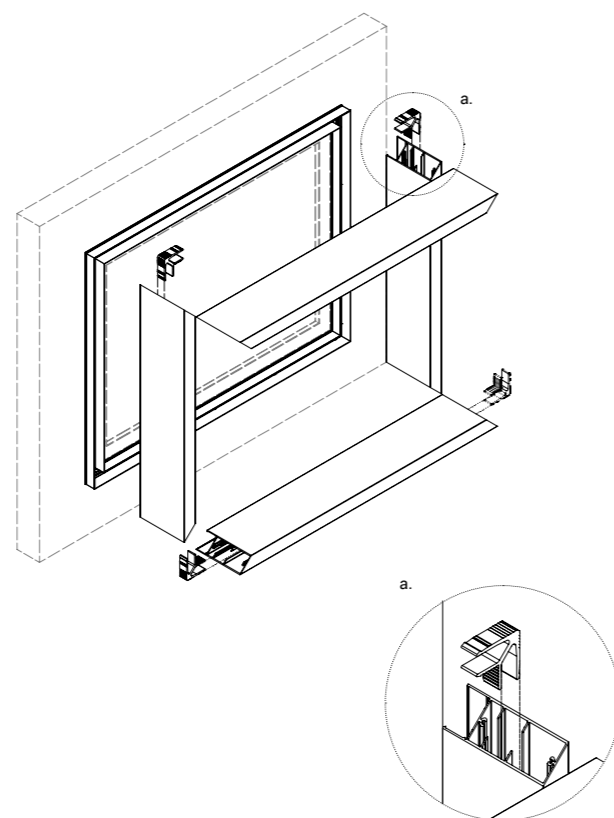


1.



Mitre the ends of the batten brackets and fix in place around the window.

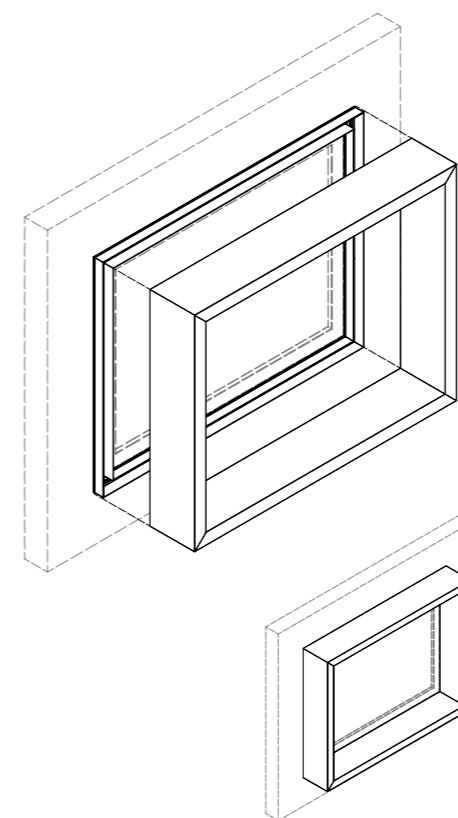
2.



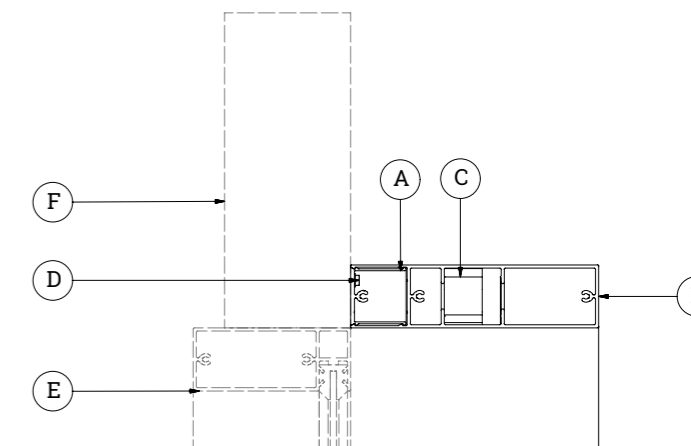
Mitre the ends of the battens. Insert epoxy into corner stake channel inside the batten (approximately 20mm from the end).

Insert the corner stakes and fit the battens together.

3.

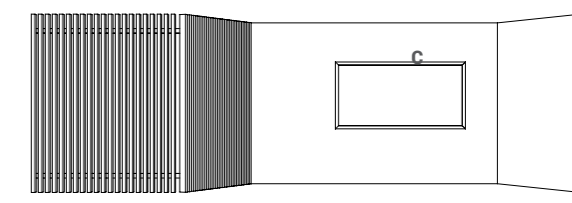


Clip the batten surround onto the batten brackets.

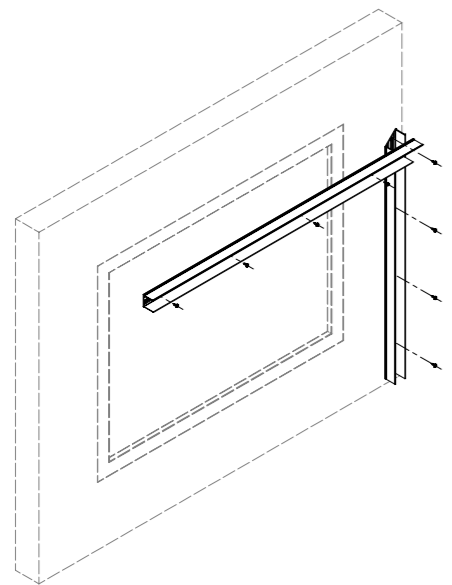


- A. KEB5050M-NEW
- B. KEB20050F
- C. KACSB
- D. Screw (by other)
- E. Window Frame (by other)
- F. Building Substructure (by other)

C | BATTEN | WINDOW SUN SHADE

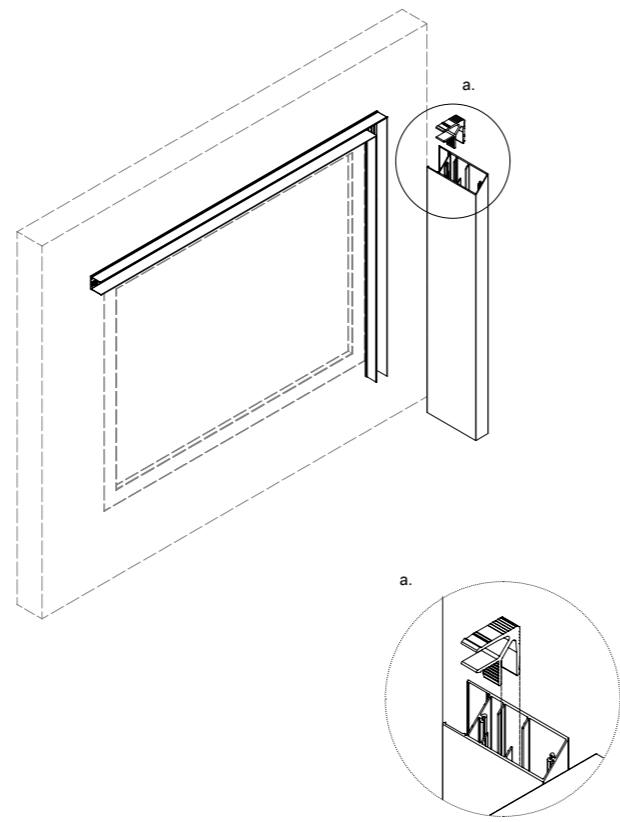


1.



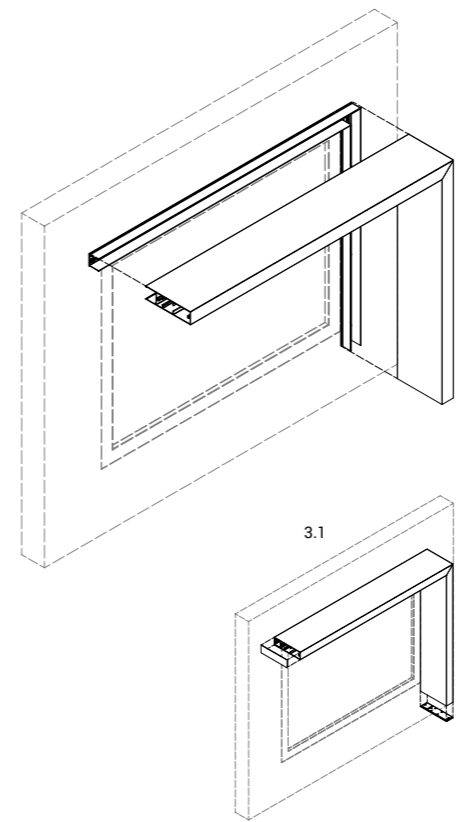
Mitre the joining ends of the batten brackets and fix in place around the window.

2.

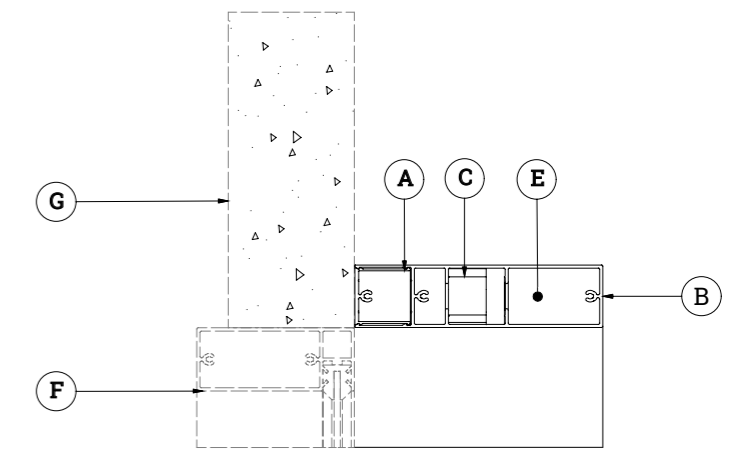


Mitre the joining ends of the battens. Insert epoxy into corner stake channel inside the batten (approximately 20mm from the end).
Insert the corner stakes and fit the battens together.

3.



Clip the batten surround onto the batten brackets.
3.1 Clip end caps onto batten.



- A. KEB5050M-NEW
- B. KEB20050F
- C. KACSB
- D. Screw (by other)
- E. End Cap
- F. Window Frame (by other)
- G. Building Substructure (by other)

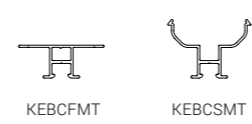
BATTEN TRACKS

CEILING
ACOUSTIC WALLS

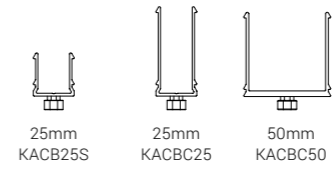
COMPONENTS



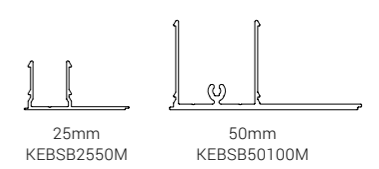
Mounting Track



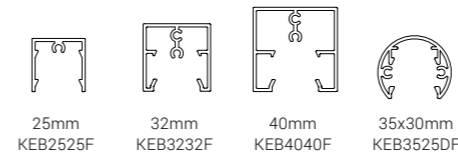
Backing Clips



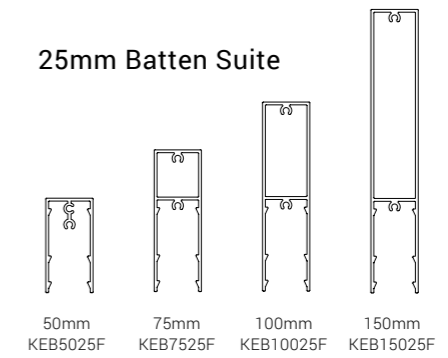
Batten Spacers



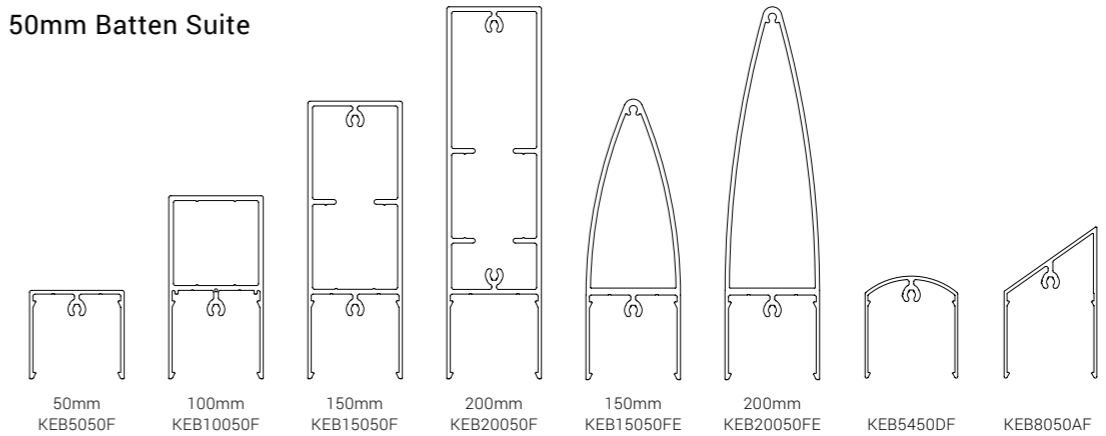
Slimline Batten Suite



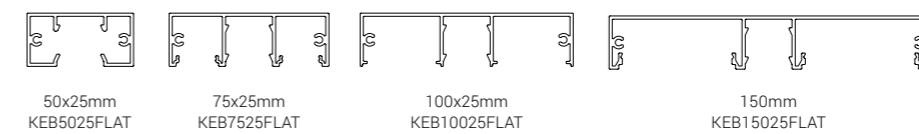
25mm Batten Suite



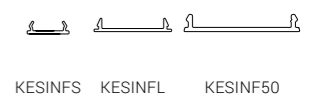
50mm Batten Suite



Wide Batten Suite

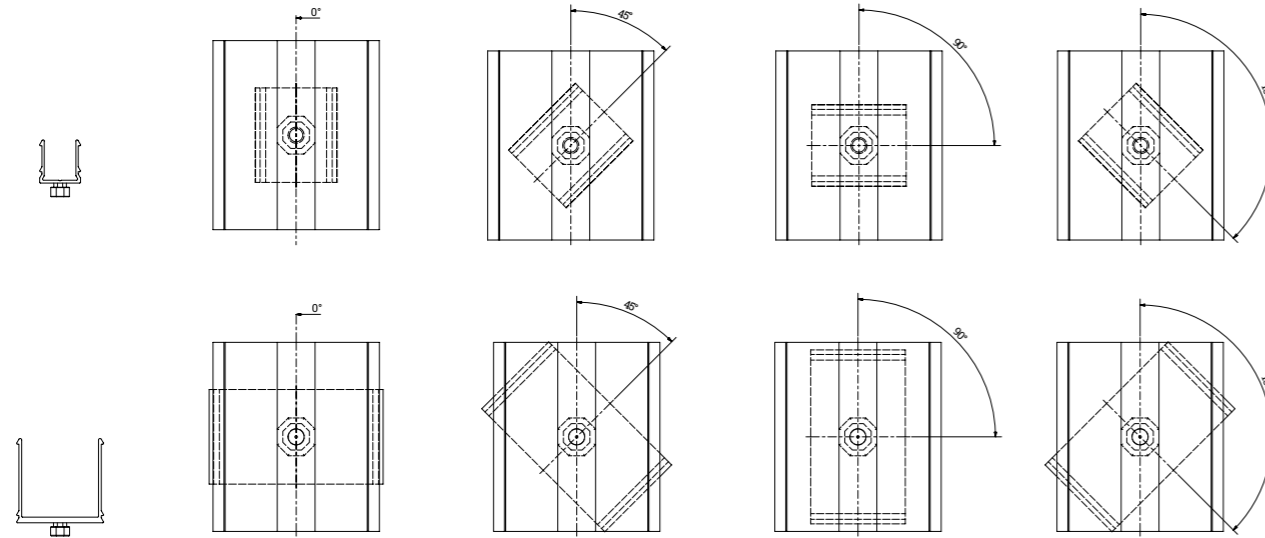


Infiles



Angle Options of Batten Clips

Knotwood's batten clips are designed with an octagonal head which can be inserted into the mounting track on different angles.

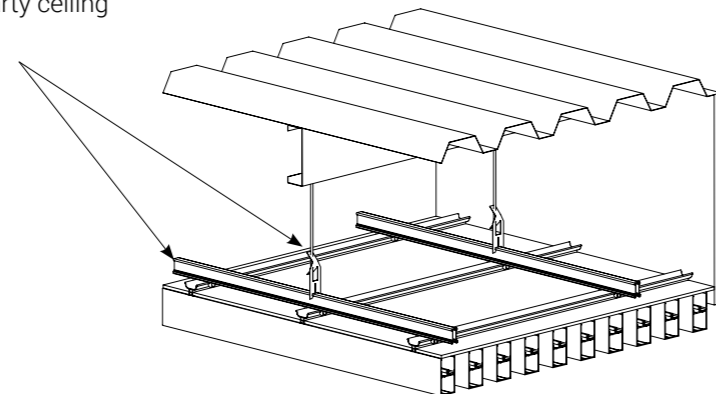


Suspended Ceiling System.

Knotwood's ceiling components are designed to be compatible with many suspended ceiling products already on the market. In our installation guides we have chosen to show the Rondo ceiling system.

It is the responsibility of the installer to follow Australian building codes and installation guidelines of the third party product in use. Knotwood will not accept any liability or responsibility for any third party product.

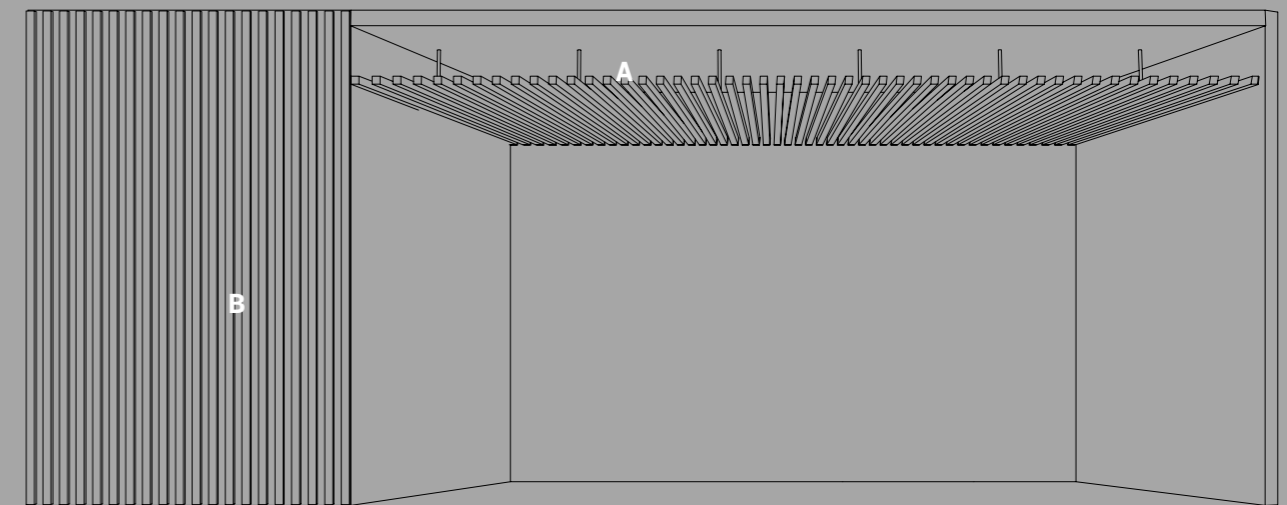
Third party ceiling system.



BATTEN TRACKS

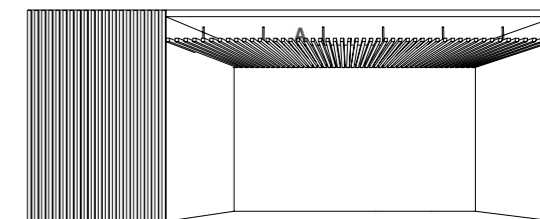
CEILINGS
ACOUSTIC WALLS
MOUNTING TRACKS

INSTALLATION GUIDES

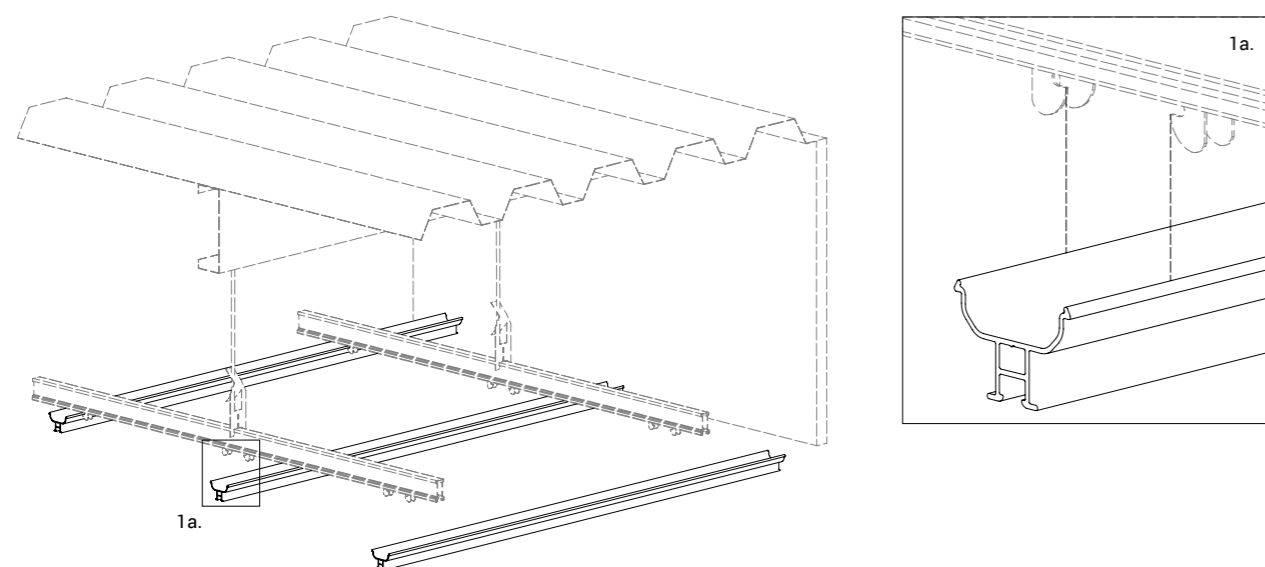


A	CEILINGS	
	Suspended Acoustic Ceiling	34
	Fixed Acoustic Ceiling	40
B	ACOUSTIC WALLS	46
	Angled Battens	50
	Door Detail	52

A | SUSPENDED CEILING DETAIL



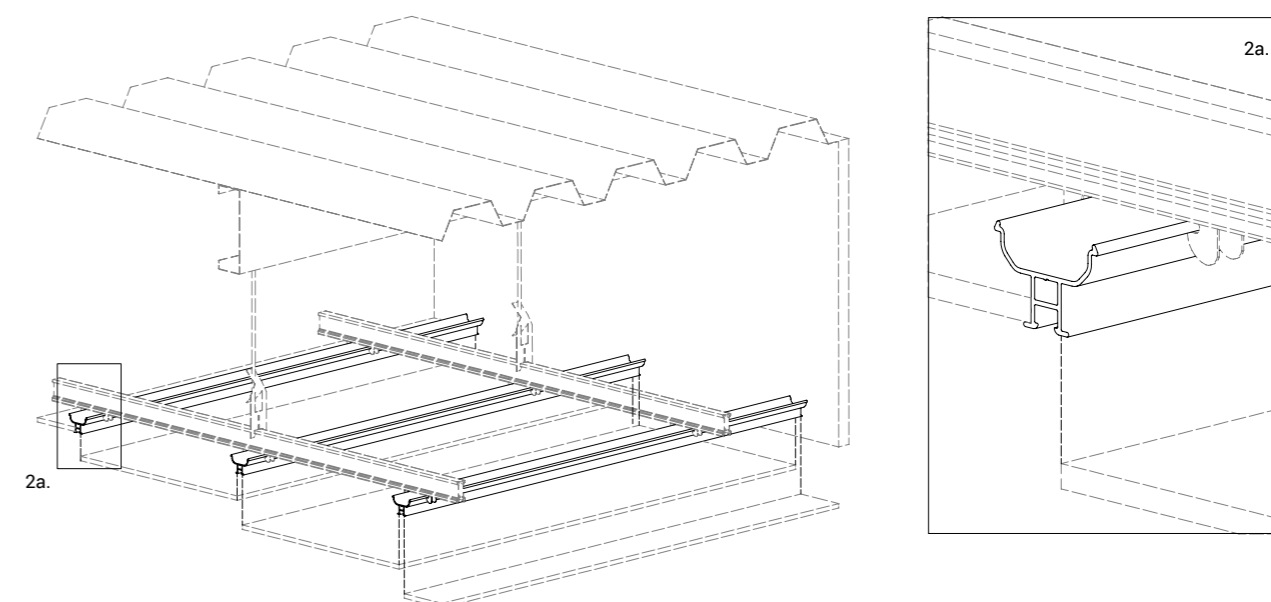
1.



First check that Hanger Clips, Rods, Suspension Clips, Top Cross Rails and Joiner Clips (from others) are installed according to the manufacturers guidelines.

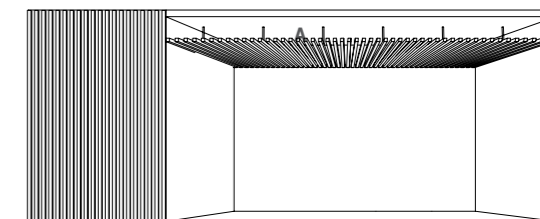
Cut track to required length and clip into joiner clips.

2.

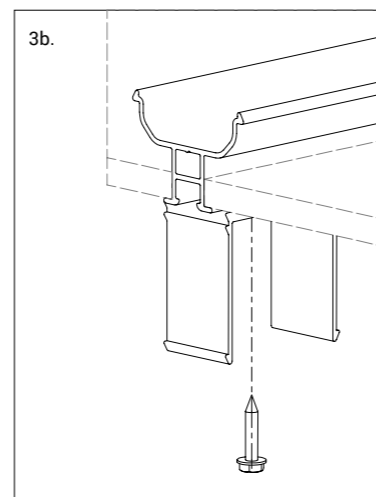
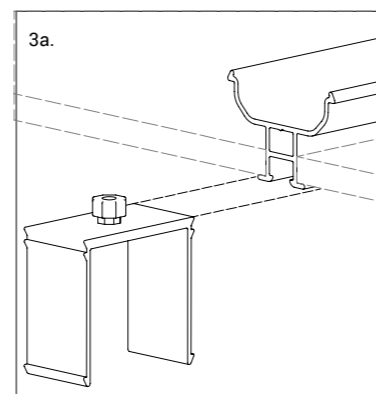
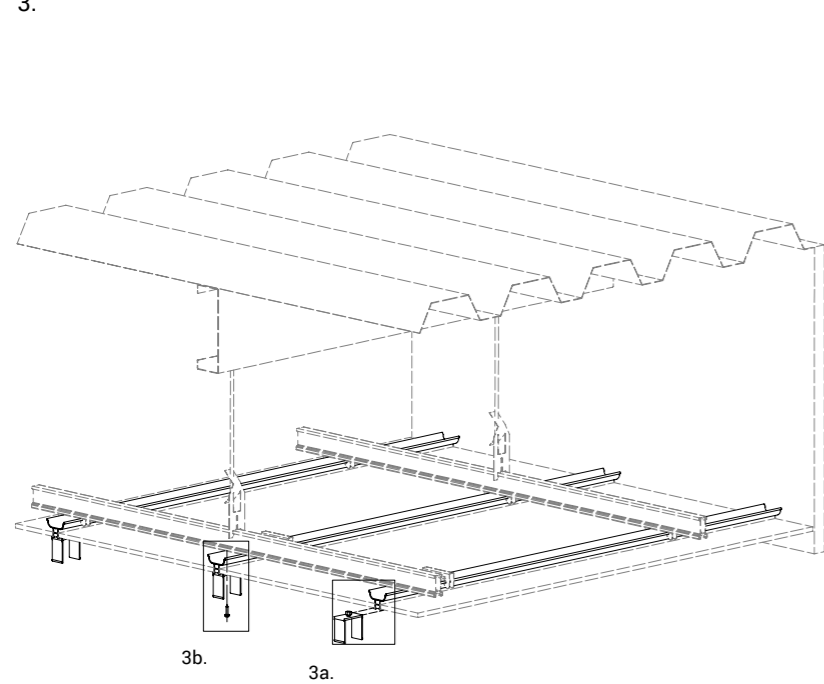


Insert acoustic panels (from others) between tracks. Ensure the acoustic panel sits flat on the lip of the track.

A | SUSPENDED CEILING DETAIL

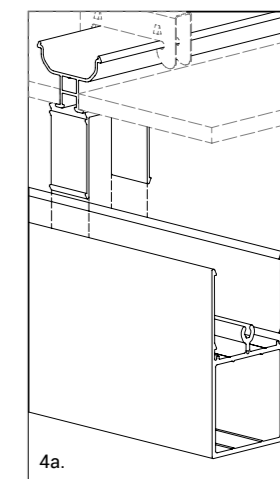
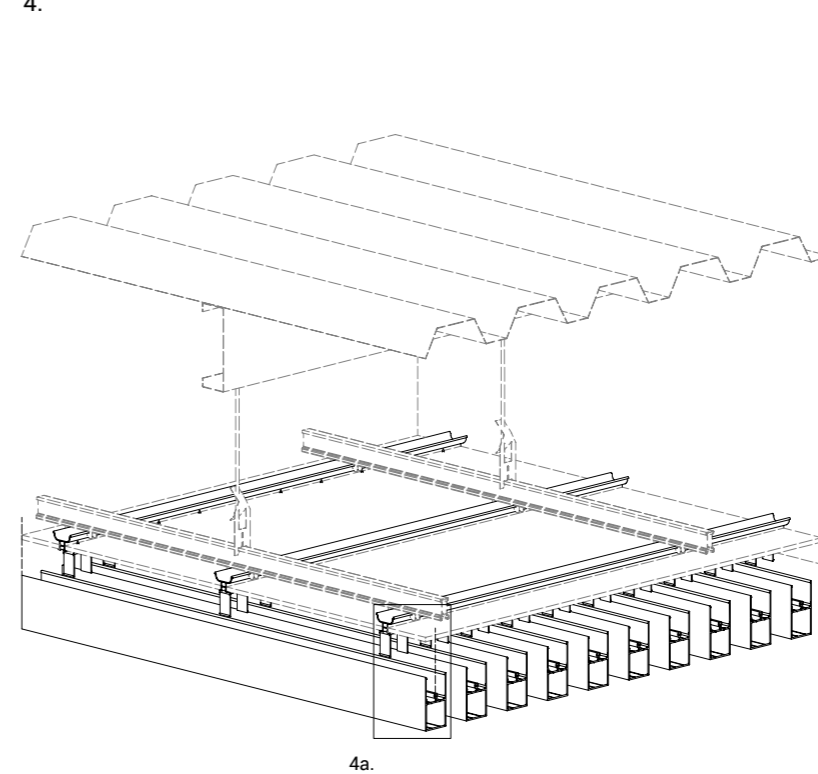


3.



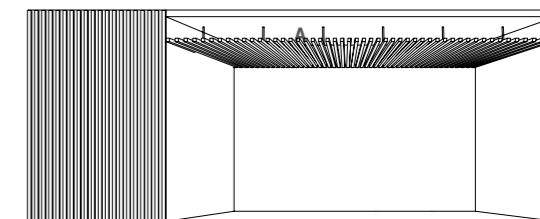
- a. Hold batten clip at desired angle and slide into the track channel.
- b. Once the batten clip is in the desired position; fix in place.

4.

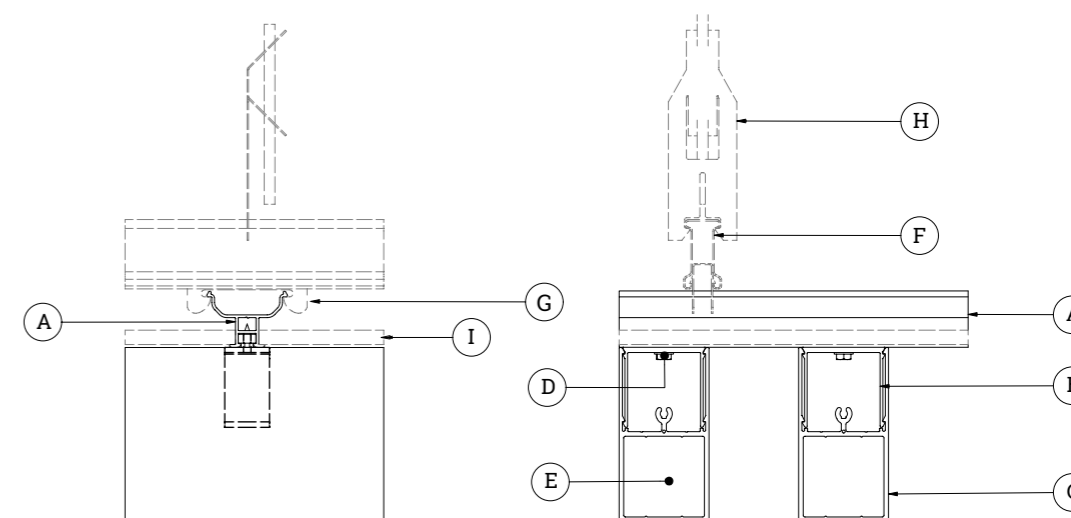
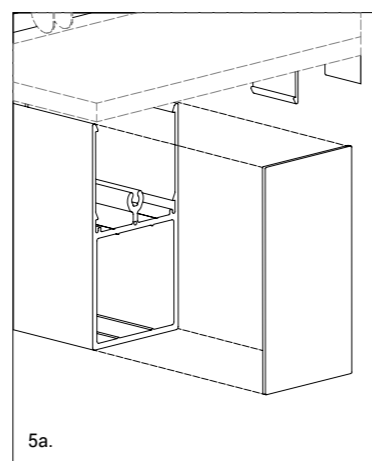
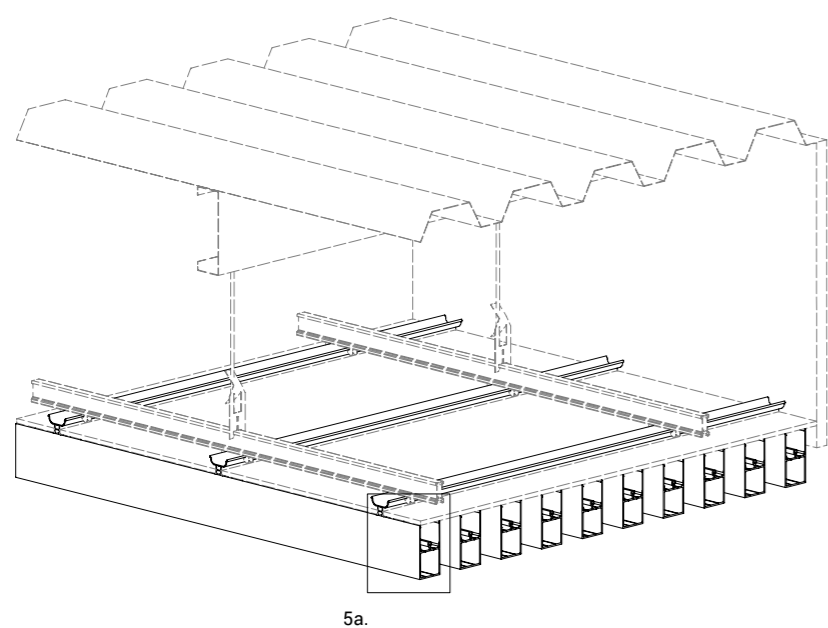


- a. Clip batten on the batten clips.

A | SUSPENDED CEILING DETAIL



5.

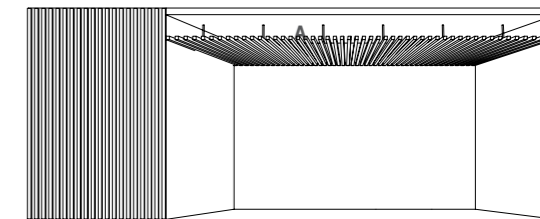


Completed ceiling system with concealed screws and fixings.

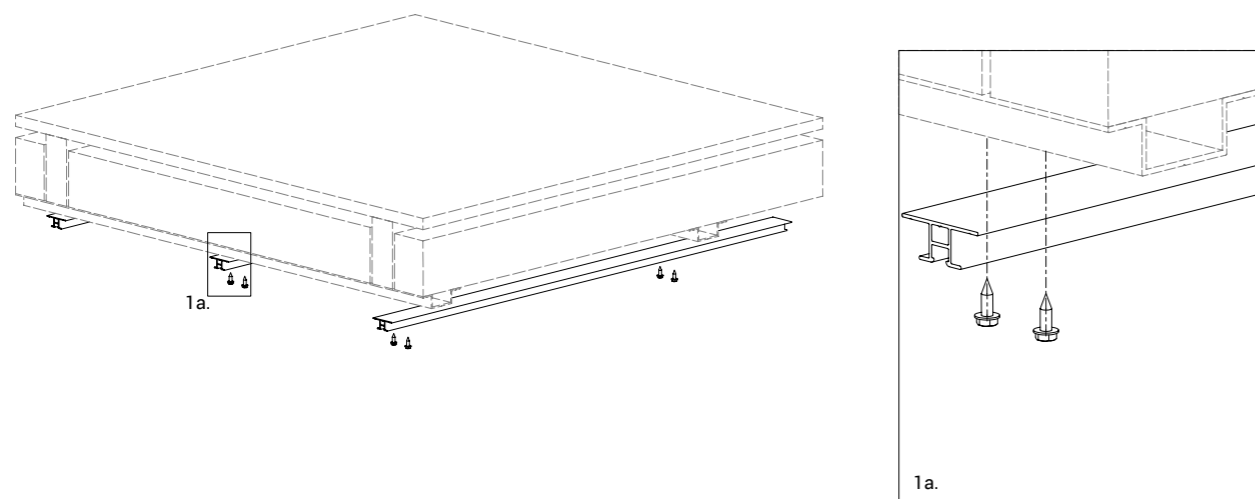
a. Caps can be fitted if required.

- A. KEBCSMT
- B. KACB50
- C. KEB10050F
- D. Screw (by other)
- E. End Cap
- F. Top Cross Rail (by other)
- G. Joiner Clip (by other)
- H. Suspension Clip (by other)
- I. Acoustic Backing (by other)

A | FIXED CEILING DETAIL

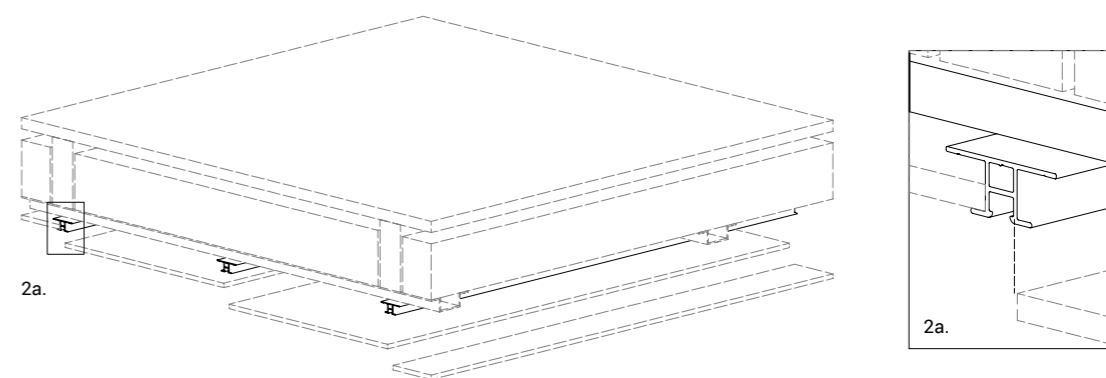


1.



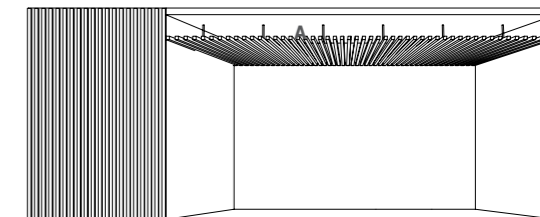
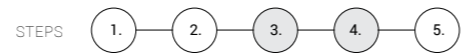
Fix track to level ceiling substrate or top hat.

2.

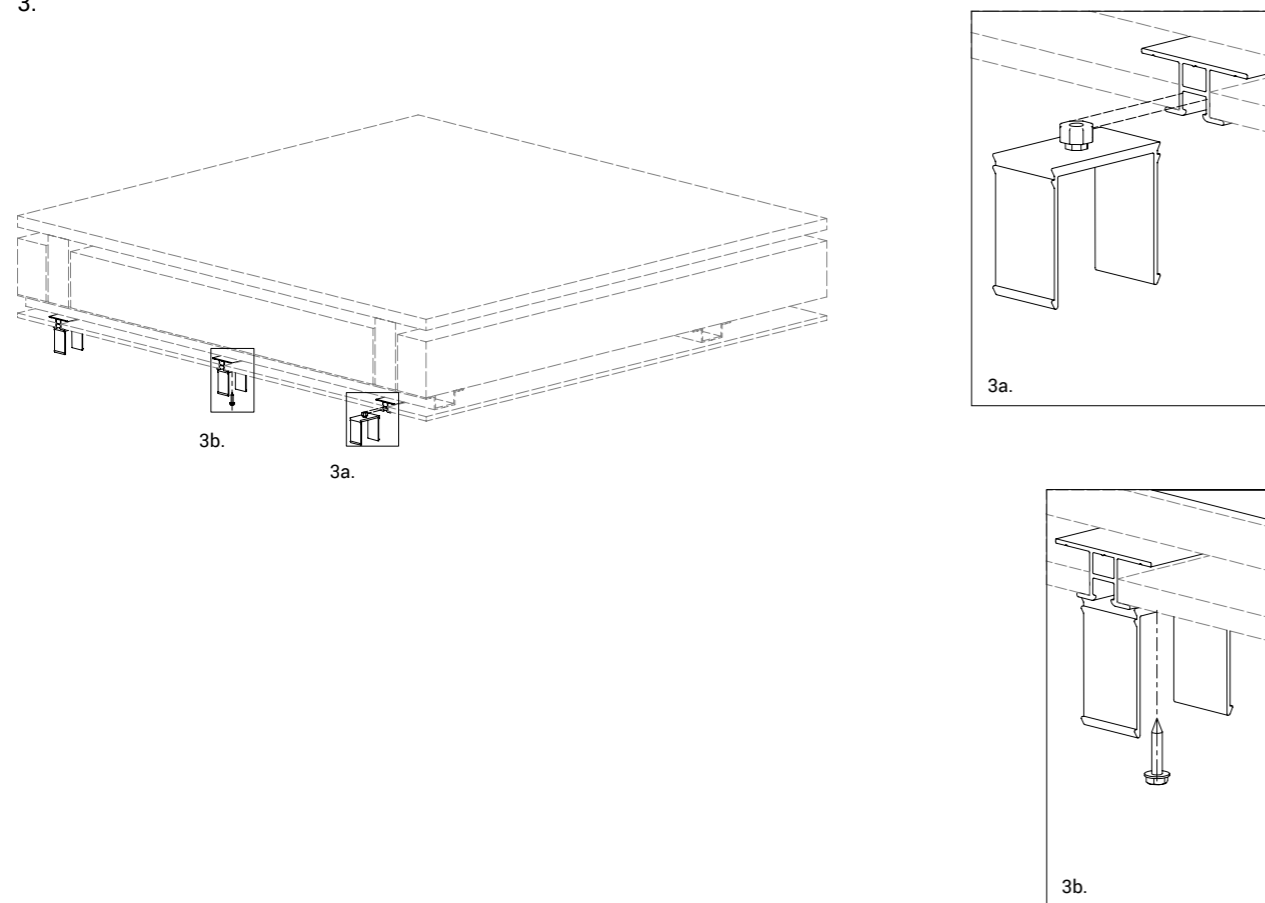


Insert acoustic panels (from others) between the tracks. Ensure the acoustic panels sit flat on the lip of the track.

A | FIXED CEILING DETAIL

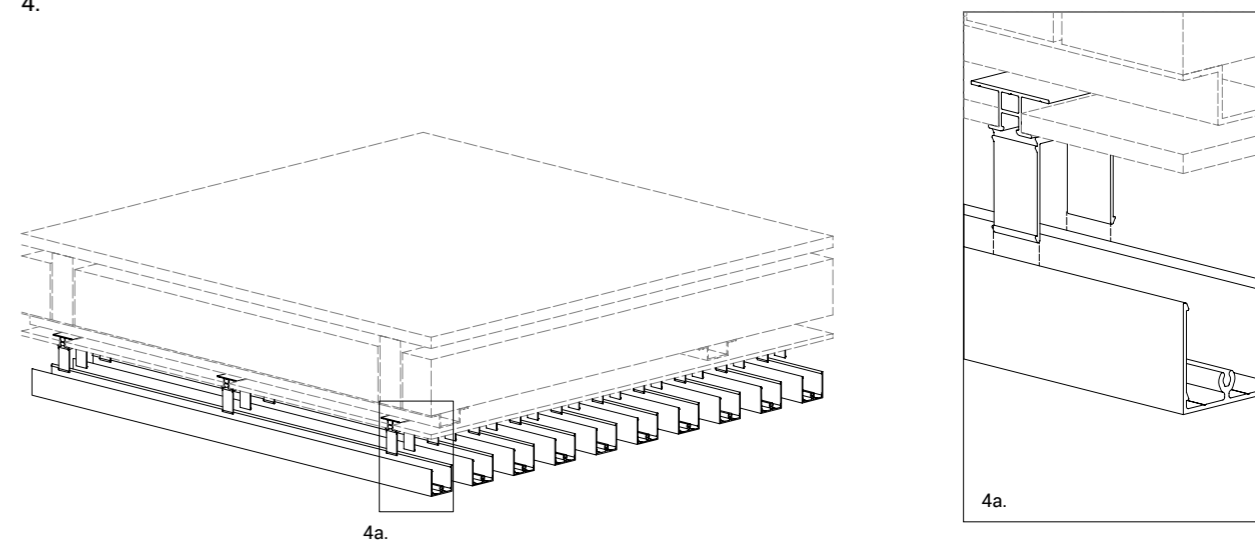


3.



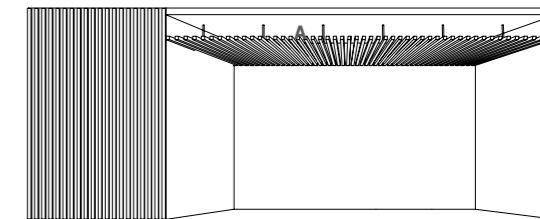
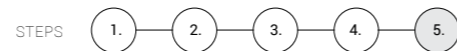
- a. Hold batten clip at desired angle and slide into the track channel.
- b. Once the batten clip is in the desired position; fix in place.

4.

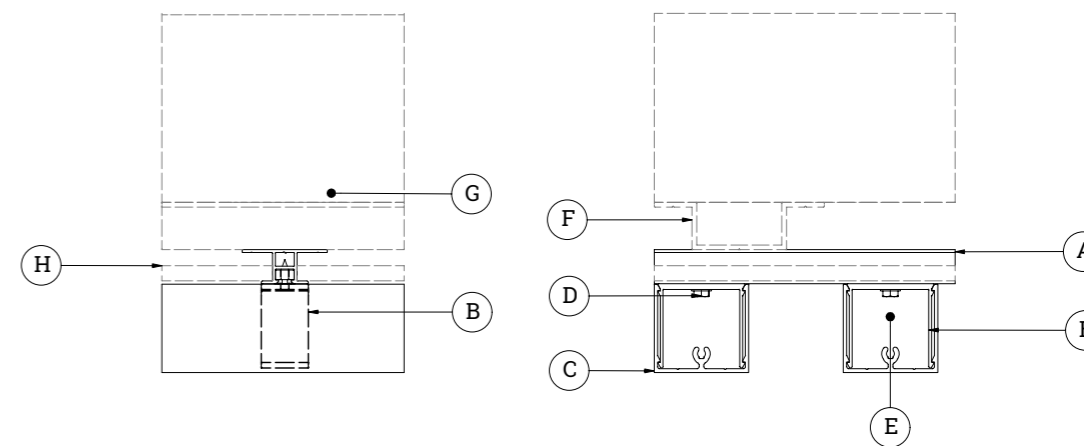
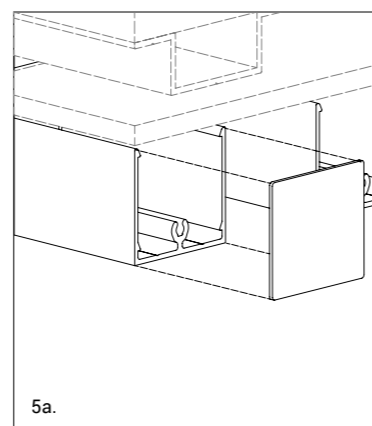
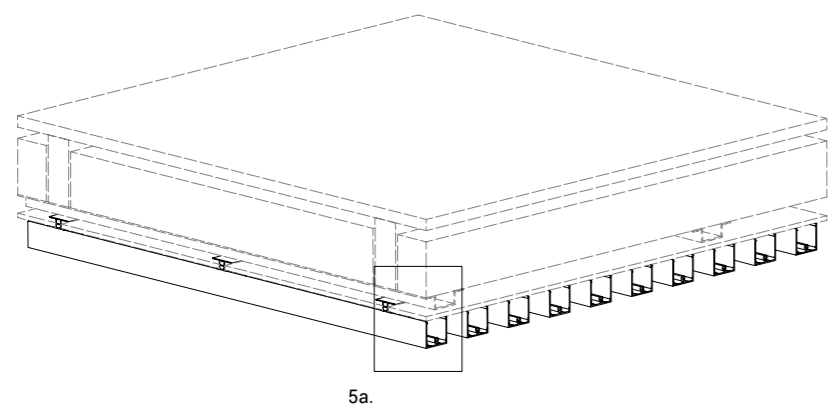


- a. Clip batten on the batten clips.

A | FIXED CEILING DETAIL



5.

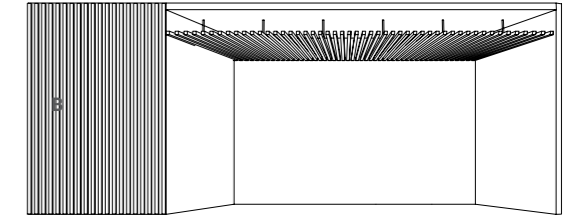


Caps can be attached to ends of battens if needed.

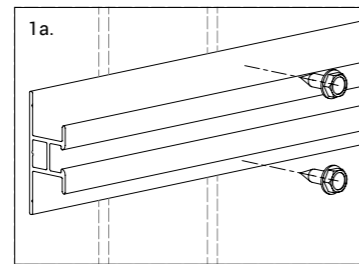
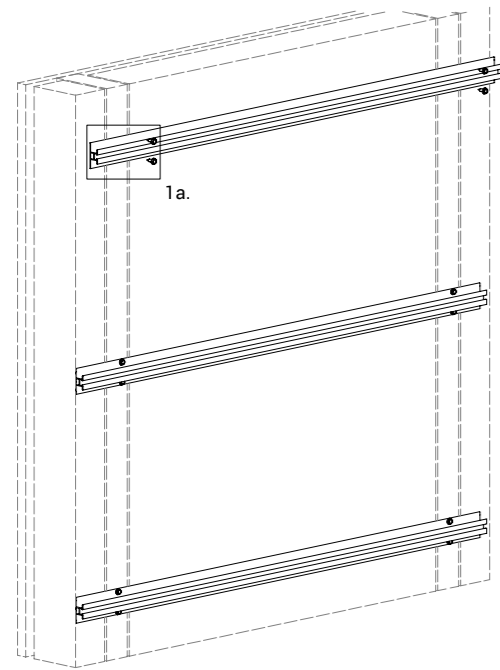
- A. KEBCFMT
- B. KACBC50
- C. KEB5050F
- D. Screw (by other)
- E. End Cap
- F. Top Hat Fanning (by other)
- G. Ceiling Joist
- H. Acoustic Backing (by other)

B | ACOUSTIC BATTEN WALL DETAIL

STEPS

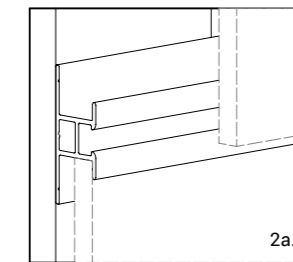
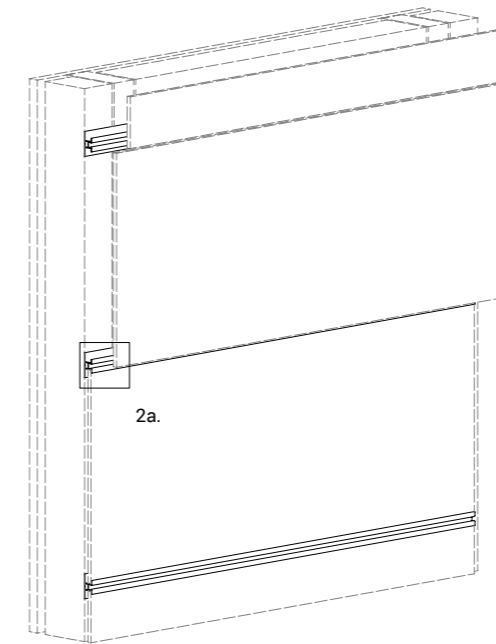


1.



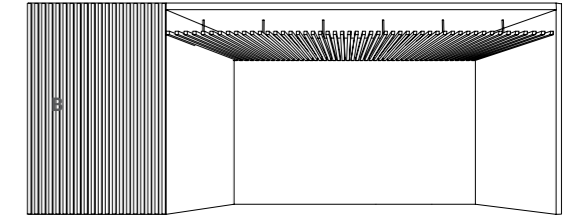
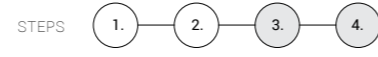
Fix track to wall substrate or top hat.

2.

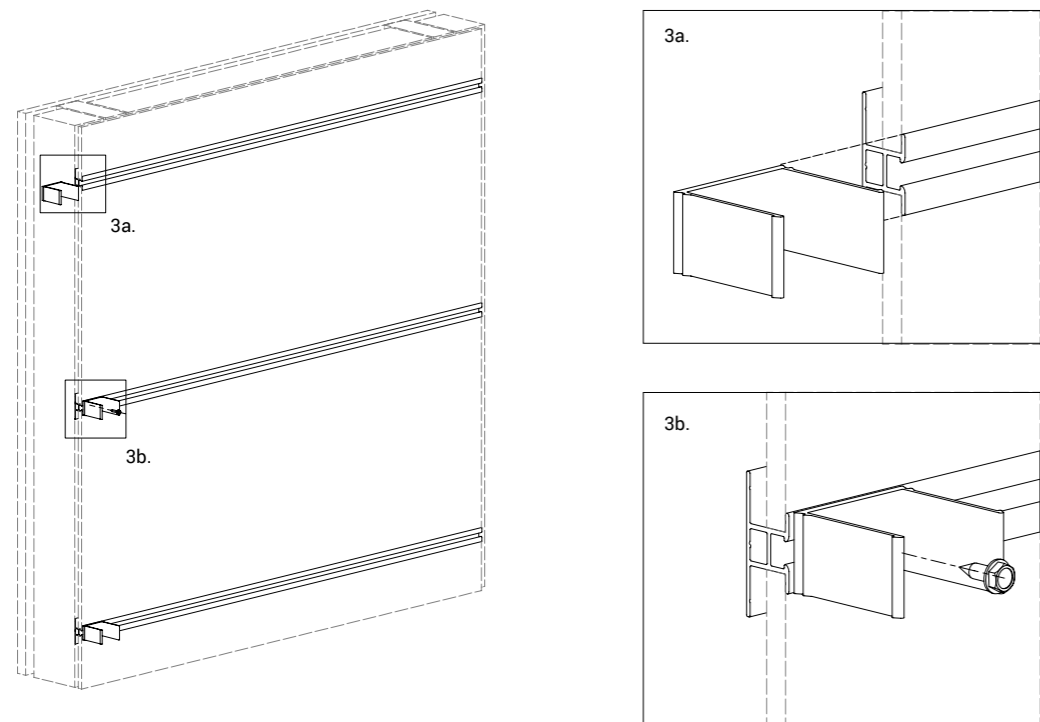


Insert acoustic panels (from others) between the tracks. Ensure the acoustic panels sit flat on the lip of the track.

B | ACOUSTIC BATTEN WALL DETAIL

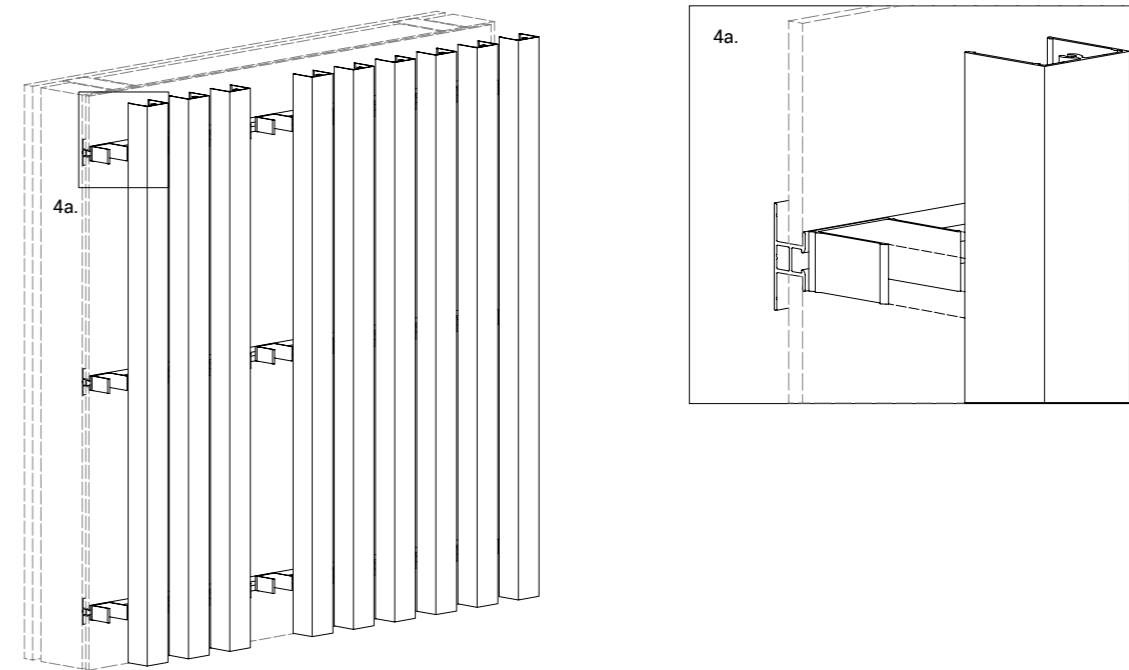


3.



- a. Hold batten clip at desired angle and slide into the track channel.
- b. Once the batten clip is in the desired position; fix in place.

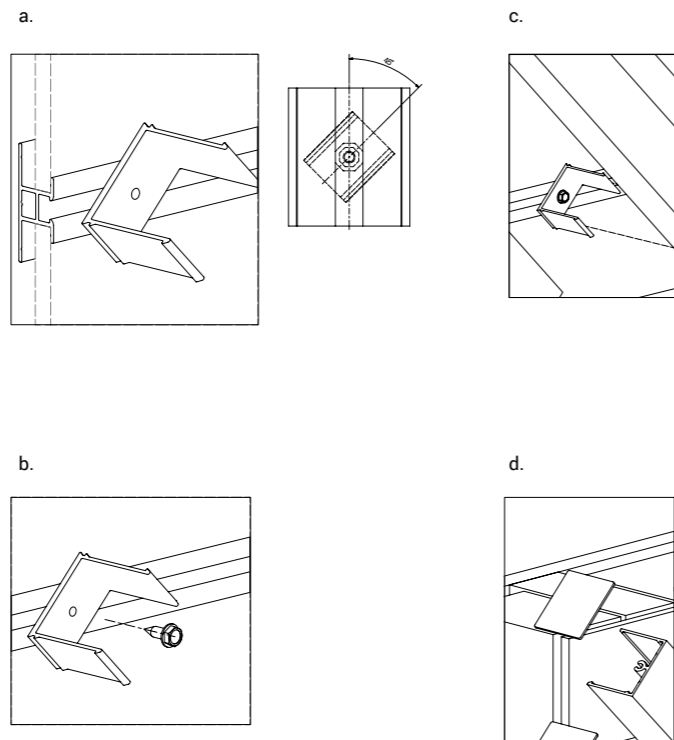
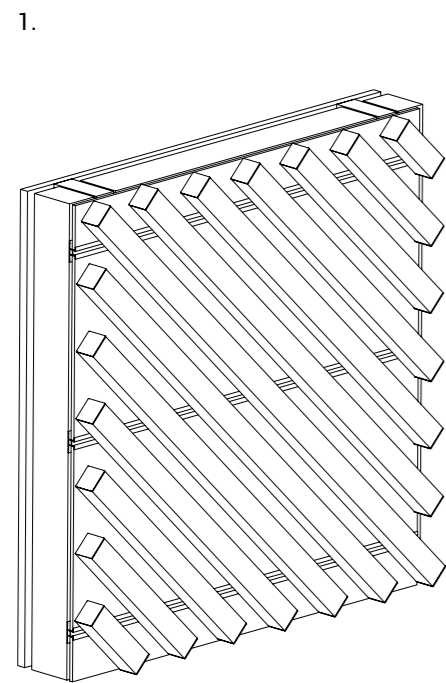
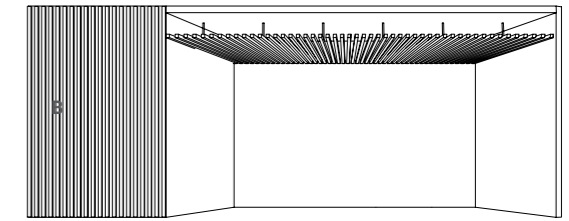
4.



- a. Clip batten on the batten clips.

NOTE: Refer to pg 51 for Dissection Drawing

B | ACOUSTIC BATTEN WALL DETAIL | ANGLED BATTENS

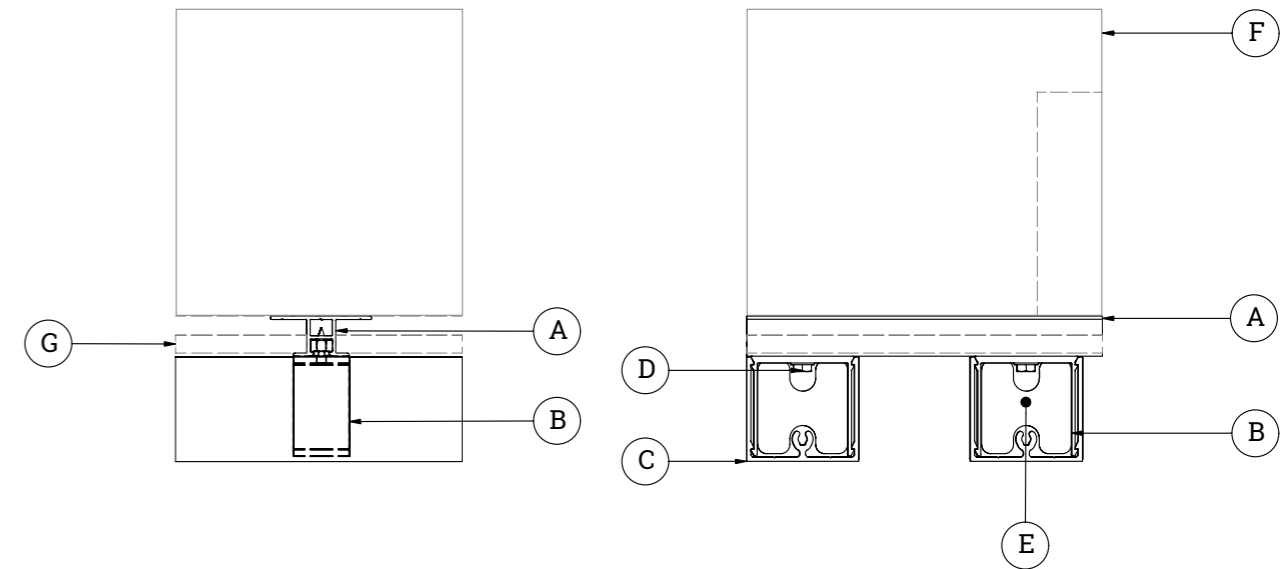


* 45° end caps can be used on mitred batten ends.

- a. Hold batten clip at desired angle and slide into the track channel.
- b. Fix batten clip in place.
- c. Clip batten on the batten clips.
- d. Clip end caps onto batten*.

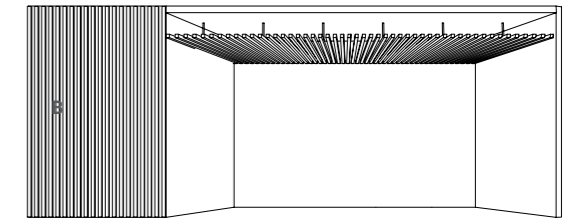
*Note: 45° end caps can be used on mitred batten ends.

Standard Acoustic Batten Wall



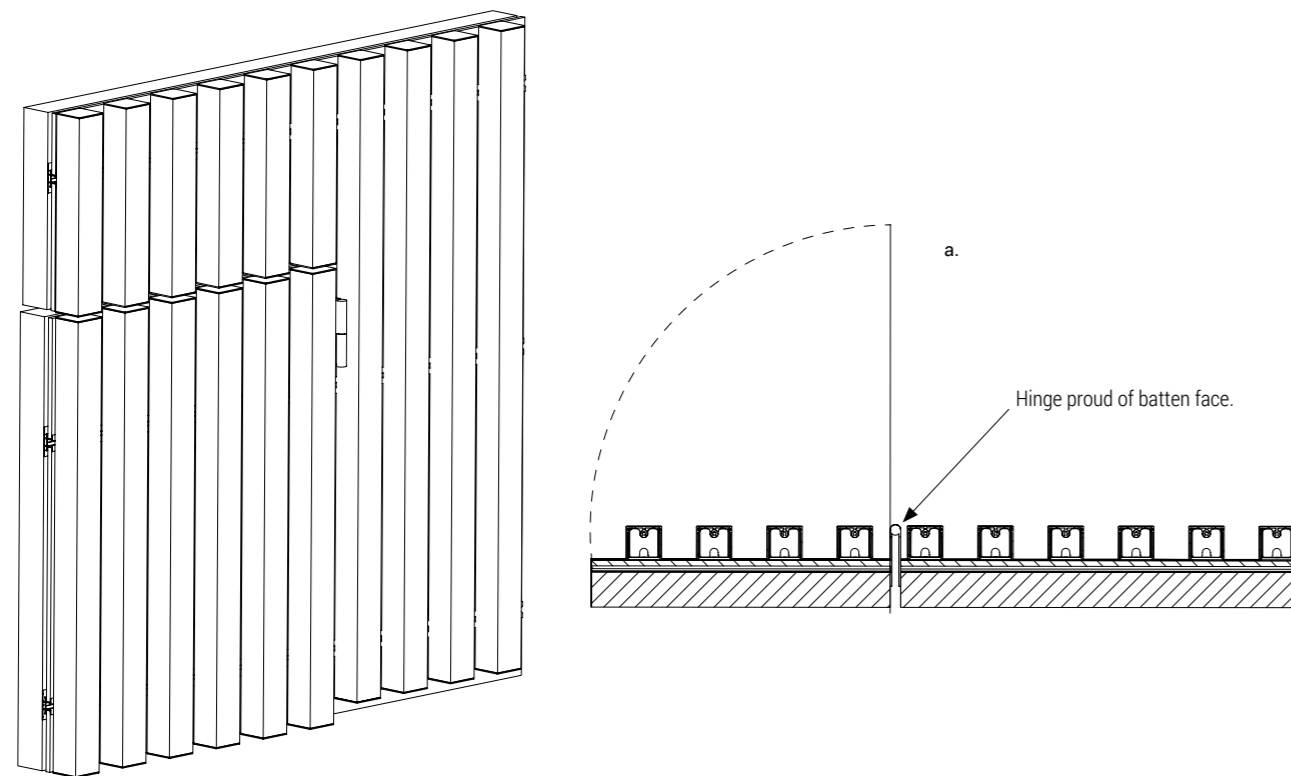
- A. KEBCFMT
- B. KACBC50
- C. KEB050F
- D. Screw (by other)
- E. End Cap
- F. Wall Substrate
- G. Acoustic Backing (by other)

B | ACOUSTIC BATTEN WALL | DOOR DETAIL



HINGED DOOR

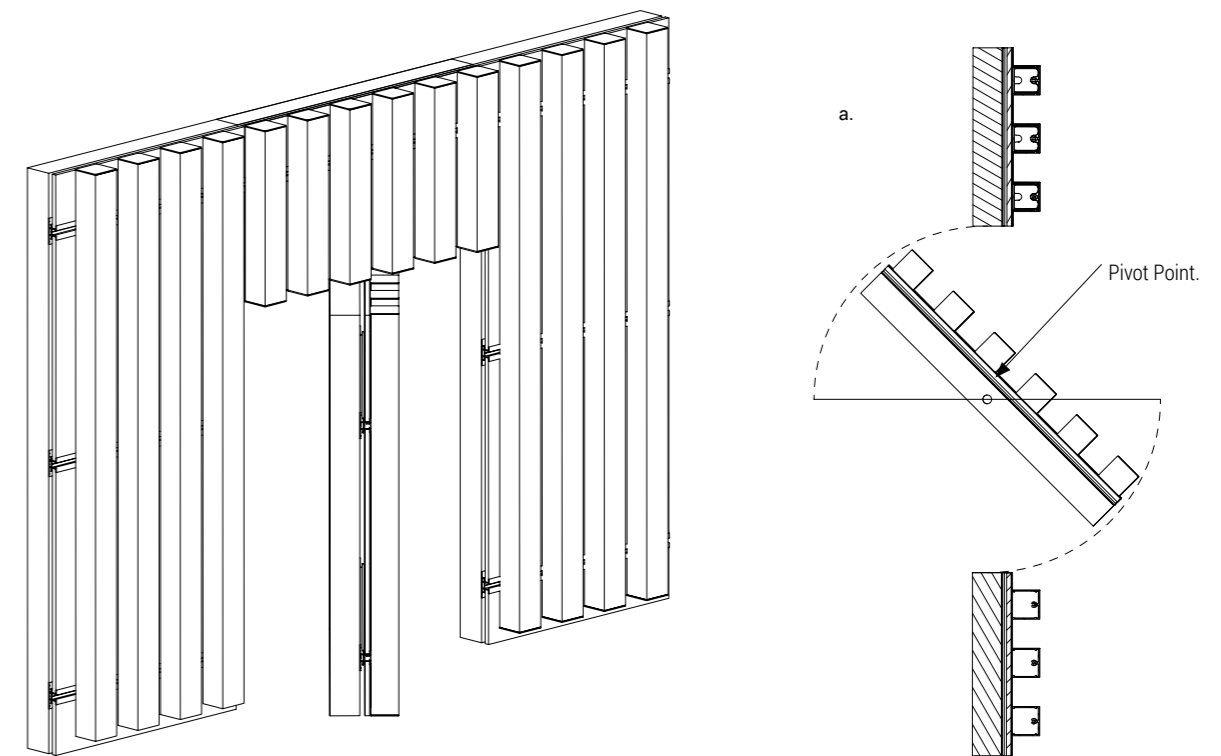
1.



- 1. Install acoustic battens as per standard installation guidelines.
- a. Ensure hinge is placed proud of the batten face to allow maximum opening.

PIVOT DOOR

1.



- 1. Install acoustic battens as per standard installation guidelines.
- a. Ensure enough gap is left around the door for battens to move freely without touching the wall edge.

Batten Composition

Australian Aluminium with varying profiles, wall thicknesses and lengths.
Coating: 80-120µ (microns) powder coat with or without sublimated finish.

Process Accreditation

ISO9001

Mechanical Properties

Standard	Test Result: Test machine Sintech 60/D	
ASTM E9	Compression Test	
	Compressive strength Yield Stress Modulus of Elasticity	285 MPa 160 MPa 68 GPa
AS1391-2007	Tensile Test	
	Tensile strength Proof Stress Post Fracture Elongation	186 MPa 238 MPa 18%
MTS Shear Test Procedure	Shear Test	
	Shear Strength Yield Stress Peak Load	152 MPa 160 MPa 18 kN

Fire Testing

Standard	Test Result	Testing Origin
AS/NZ 3837- 1998	Group 1	AWTA Melbourne, Australia NATA certified lab
AS/NZ 1530.3	Index 0 (spread of flame)	Exova Warringtonfire Aus Pty Ltd Test performed at CSIRO laboratories, Melbourne VIC
AS/NZ 1530.1	Combustibility Test for Materials class as a non combustible product	Exova Warringtonfire Aus Pty Ltd Test performed at CSIRO laboratories, Melbourne VIC

**Powder Testing
AAMA 2604-10**

Interpon D Approved Applicator			
AS3715 Section 2.5.10	Salt Spray Test: No creep more than 2mm from scribe	3000 (<8 blisters, >scribe)	Akzo Testing Lab, Mel, Australia
AS3715 Section 2.5.7	Humidity Resistant: No blistering or loss of gloss after 240hrs	3000 at 37.7 Degrees Celcius & 100% humidity	Akzo Testing Lab, Mel, Australia
BS3900-F7 at 40 Degrees Celsius	Distilled Water Immersion: Pass - No blistering or loss of gloss	240	Akzo Testing Lab, Mel, Australia
Mar Testing	Rating 4 after 32640 rubs - No loss of film adhesion - No gloss change - No dirt pick up - No abrasion - Slight Degree of Maring		
Abrasion Resistance	Abrasion Coefficient >20		
Color Retention	5 year fade: Delta <E5		
Chemical Resistance	No loss of adhesion, blistering or visually apparent change after exposure to muriatic acid, mortar, detergent, window cleaner and nitric acid		

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Knotwood has taken due care to prepare the enclosed literature to assist the end user. Knotwood is not liable for any errors and accepts no liability for information which may be misleading or misinterpreted.



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