

innowood
PLUS-DEKTM
SUSTAINABLE TIMBER ALTERNATIVE

A photograph of a modern outdoor deck at night. In the center is a large, dark, circular fire pit with a fire burning inside. To the left and right are lounge chairs with light-colored cushions. A black lantern with a lit candle sits on the right chair. The deck is made of dark wood planks. The background shows green foliage. The image is framed by a white diagonal line.

DECKING INSTALLATION GUIDE 2025

WWW.INNOWOOD.COM

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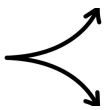


innowood **PLUS-DEK**TM

SUSTAINABLE TIMBER ALTERNATIVE

PLUS-DEK blends the beauty of timber with the strength of innovative PVC, to create a low maintenance, dual-tone, composite decking board. Designed and engineered for both residential and commercial environments.

THE FUTURE OF COMPOSITE DECKING



Two tones in one board for versatile, modern styling and styling.



Crafted from eco-friendly materials for a greener outdoor space.



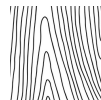
Resistant to moisture, stains, and UV damage.



Embossed surface delivers the highest P5 pendulum slip rating.

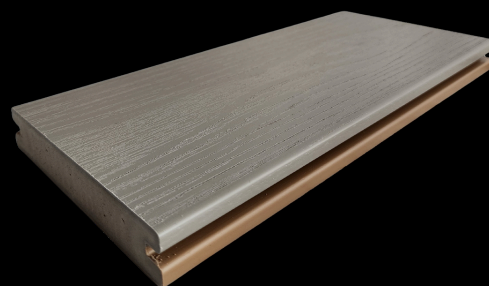


In-demand timber tones and sleek darks for refined outdoor living.



Designed with varied grain detail for an authentic timber appearance.

MODERN TONES. MODERN LIVING.



PLUS-DEK boards are dual-tone, with a different colour and unique grain pattern on each side. Flip the board to choose the combination that best suits your project's style, whether you're creating a backyard oasis or a sleek commercial space.

SALTED ASH | SMOKED WALNUT



TOASTED MAPLE | COASTAL SAND



DESERT OAK | SEASIDE PEBBLE



Profile: Grooved Edge & Square Edge
Grooved Edge: 5400x140x24mm | 6100x140x24mm |
Square Edge: 5400x140x24mm
Dual-Tone: Two colours per board | Surface: Embossed timber grain

💡 Square Edge boards are perfect for finishing deck edges, steps, or creating stylish borders without visible grooves.

Plus-Dek's nature-inspired embossed grain delivers a refined timber aesthetic with a modern edge. Our curated colour selection reflects today's most in-demand design trends, featuring sophisticated neutrals, elegant warm tones, and deep urban shades. Each board combines contemporary style with the authentic texture of timber, offering a premium finish that elevates any outdoor space and sets a new standard for luxury living.



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Please note that:

The Product is subject to natural variation* in finish as part of the manufacturing process. The purchaser or their installer/builder is responsible for inspecting, prior to installation, the colour, finish and size of the product, identifying whether the Product has any other defect or manufacturing fault, and for ensuring the Product meets surface appearance and product specification requirements. Subject to the terms of our warranty, **INNOWOOD PLUS-DEK™** is not liable for claims made after the installation of the Product that relate to surface appearance and product specification.

* **INNOWOOD PLUS-DEK™** product is made predominantly from timber waste, colour will vary up to +/-20% according to the timber used in its manufacture.

It is the responsibility of the specifier or other party to ensure that the information in this manual is appropriate for the intended application and further design detailing may have to be made for specific applications that fall outside the scope of the manual.

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Read this before start

- Climatise the boards on site prior to installation;
- Job site storage - decking must be store on a flat level surface and use proper supports with maximum 600mm centres. Avoid double stack;
- Make sure you have the latest installation manual by visiting www.innowood.com;
- Cutting and Drill metal should not be done on **PLUS-DEK™** boards, as metal shaving may leave scratch mark and embedded themselves into the boards;
- Colour variation is acceptable as the **PLUS-DEK™** is a timber base product, it is good practice to mix dark and light boards to give that nature timber look;
- Any debris accumulated on the **PLUS-DEK™** boards during installation must removed immediately using blower or vacuum;
- **PLUS-DEK™** board has two different colour on each side, make sure using the correct colour;
- Prior to installation, check to make sure all joist are level, structurally sound and there are no nails or screws protruding;
- Make sure span are set out correctly, Residential – 400mm, commercial 350mm;
- Avoid concrete, cement or any masonry product getting contact with **PLUS-DEK™**, as such particle get in contact with **PLUS-DEK™** will cause reaction on the surface and difficult to remove.

Safety

When working on any construction project, you should wear protective clothing and safety equipment. Wear safety glasses, protective gloves, hearing protection, protective footwear, and a dust mask, particularly when cutting in confined spaces.

Ensuring the working area is safe and free fo potential hazards. When using power tools ensure they are in safe working order and refer to the tool manufacturer's recommendations and use safe operating procedures.



Site Storage & Product Handling

- **PLUS-DEK™** boards are a finished product and should not be dumped or dropped during loading or unloading. Always handle with care.
- Store **PLUS-DEK™** boards under cover and protect them from the elements, including direct sunlight and rain, until they are ready for installation. Remove all plastic wrapping, including shrink wrap, before storage. Store the boards on a dry, flat surface, supported at maximum 600mm centres.
- When removing boards from the pack, do not slide them against each other. Instead, lift each board and set it down carefully. For better support, carry boards on their edge.
- Take care to avoid scratches, nicks, or other damage while handling **PLUS-DEK™** boards.

Care and Maintenance

- Always have protective coverings for furniture feet, and avoid dragging heavy object over the deck;
- Regular cleaning to remove dirt using normal pressure water, hosing down any dirt or debris;
- Remove any food spills immediately and clean with warm soapy water with a soft bristle brush to remove spills from the embossed grain;
- Avoid concrete, cement or any masonry product getting contact with **PLUS-DEK™**, as when such particle get in contact with **PLUS-DEK™** will cause reaction on the surface and difficult to remove;
- Avoid rubber backed mats (such as welcome mats, tarps, ect.) for extensive period, as these material may contain substances that can discolour the deck surface.

Disclaimer

- The provided information, drawings, dimensions and specifications are offered in good faith as accurate but without guarantee. The information contained herein may not contain complete details.
- Compliance with this document does not guarantee immunity from breach of any statutory requirements, building codes, or relevant standards.
- The final responsibility for the correct design and specification rests with the designer and, for its satisfactory execution, with the contractor.
- Most data within this document have been complied with research, case histories, experience, and testing. Small changes in the environment can produce significant differences in performance. Therefore, the use of a material and method may need to be modified to its intended end use and environment.
- Legislation may differ between jurisdictions. Before installing any INNOWOOD products, ensure that the application is rational and complies with the local regulations and building codes.

Thermal Expansion & Contraction

PLUS-DEK™ will experience expansion and contraction with change in temperature, unlike wood, which fluctuates in size due to moisture changes. The expansion and contraction may result in noticeable gaps at the end of boards. Gapping is normal, and some degree of it can be expected. Using Face-Fastening System (on page 12) will help minimise expansion and contraction.

PLUS-DEK™ boards that have been exposed to direct sunlight prior to installation will have expanded more than if left in the shade. Therefore, it is important to maintain an average consistent temperature for all boards when acclimatising the boards to the local temperature.

To calculate the thermal expansion of composite decking, below equation can be used:

$$\Delta L = L_0 \alpha \Delta T$$

Where:

- ΔL is the change in length
- L_0 is the original length
- α is the coefficient of thermal expansion
- ΔT is the change in temperature

Sample calculation:

- Original Length (L): 5m
- Temperature Change (ΔT): from 20°C to 30°C
- Coefficient of thermal expansion (α) 0.05mm/m/°C

$$\begin{aligned}\Delta L &= L_0 \alpha \Delta T \\ \Delta L &= (5)(0.05)(10) \\ \Delta L &= 2.5\text{mm}\end{aligned}$$

Alternatively use this expansion table below to find the expected gap size left between boards ends when installing **INNOWOOD PLUS-DEK™**. Multiply the expansion per metre by the length of your board in metres to get the exact thermal expansion.

Expansion per Metre of Board Change in Temperature [Expansion size (mm)/m/°C]												
Change in Temperature(°C)	5	10	15	20	25	30	35	40	45	50	55	60
Expansion per metre (mm)	0.25	0.5	0.75	1	1.25	1.5	1.75	2	2.25	2.5	2.75	3

Note: Special consideration should be taken when working with dark colours as they will experience larger temperature swings during normal use. To help control end-to-end spacing, dark colour decking should be kept at ambient temperature and shaded from direct sun prior to cutting and immediate securing.

Ventilation

INNOWOOD PLUS-DEK™ boards must not be installed directly on a flat surface. A sub-structure is required to ensure proper air circulation beneath the decking system, preventing excessive water and moisture build-up. The min. clearance is 50mm.

Please Bear in Mind That:

1. Where **INNOWOOD PLUS-DEK™** boards are to be screw fixed, clearance holes must be pre-drilled before fixing.
2. The clearance hole to be drilled must be slightly greater than the outside screw thread diameter.
3. Screws must be minimum 15mm but maximum 25mm away from board edges. (unless noted otherwise)
4. **INNOWOOD PLUS-DEK™** must not be used for any structural purpose.

Framing Construction Requirements

Be sure to consult with a licenced builder, architect or engineer prior to designing or building your deck to ensure the regulations are met for criteria including: the stress grades, size and spans of posts, bearers and joists and other structural elements. All the following standards must be complied with:

- AS/NZS 1170.1:2002 – Structural Design Actions, Part 1: Permanent, Imposed and other Actions
- AS/NZS 1170.2:2002 – Structural Design Actions, Part 2: Wind Actions
- AS 1720.1:2010 – Timber Structures – Design Methods (if used in conjunction with timber)
- AS/NZS 1684.2:2010 – Residential Timber-framed Construction
- AS/NZS 4600:2005 Cold-formed Steel Structures
- National Construction Code (NCC)

- INNOWOOD PLUS-DEK™** may be fixed to seasoned timber joists or to a proprietary structural system.
- Joist spacing for **INNOWOOD PLUS-DEK™** is nominally set at 400mm centres max for residential and 350mm centres max for commercial applications in urban and non-cyclonic wind load areas. For higher wind-load areas reducing joists span may be required. All boards must span across a minimum of 3 joists.
- For laying boards 45° to the joist, reduce the joist centres to 280mm for residential and 240mm for commercial. According to trigonometry, the joist centre should be adjusted based on the change in angles.
- Alternatively, turn the joists 90° to the board direction, as this reduces material waste and improves time efficiency. A minimum of 3 joists is required for any cut boards if you need to cut the decking board along its length.
- As with all decking products the adequacy of a proposed installation should always be checked by a qualified engineer.
- Joists must have a face not less than 45mm for timber and 38 mm for steel.

Timber Framing

The joints between posts, bearers and joists need to be able to transfer load efficiently through the structure, refer to AS1684 for design of these elements.

It is important to use adequately seasoned timber to minimise shrinkage and associated building movement which may damage the decking system.

Aluminium Framing

When aluminium framing members are specified, relevant guidance from the industry professionals should be followed.

Screws

- Screws must comply with AS 3566 Self Drilling Screws for Building and Construction Industries.
- Screws must have a minimum class 3 corrosion resistance, suitable for external applications in mild, moderate industrial and marine environments and class 4 or stainless steel for severe environments.
- Screws with class 1 or 2 corrosion resistance may be used for internal use depending on the individual application.

Joist Spacing design and Loading

The Joist or batten spacing for **INNOWOOD PLUS-DEK™** is nominally set at a maximum 400mm centres for residential applications and 350 centres for commercial applications. Below are the spacing guidelines based on the angle of installations:

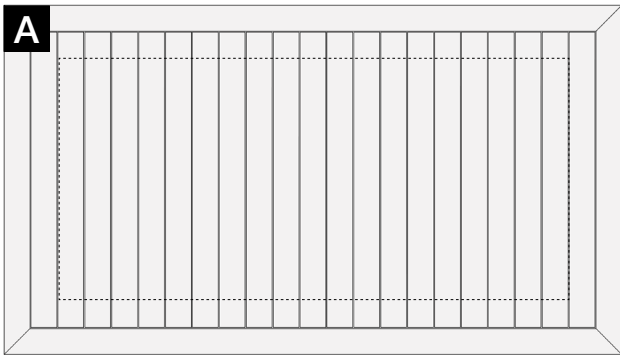
Degree of Angle	Spacing (max.)
90	Refer to the max. spacing for residential or commercial applications
60	50mm less than the spacing for 90°
45	100mm less than the spacing for 90°
30	1/2 the distance of the spacing for 90°

Uniformly Distributed Load (kPa)	Concentrated Load
3	1.8

The allowable long-term uniformly distributed load (kPa) is limited by the allowable bending strength of the **INNOWOOD PLUS-DEK™** and should not exceed the loads per support span, as show in the table above.

The allowable concentrated live load (kN) is limited by the deflection of the **INNOWOOD PLUS-DEK™** between the supporting joists and should not exceed the maximum loads.

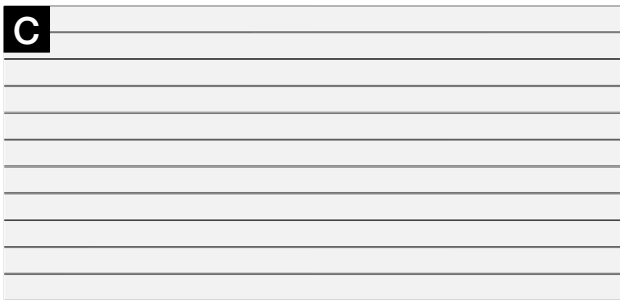
Decking Pattern Design Options



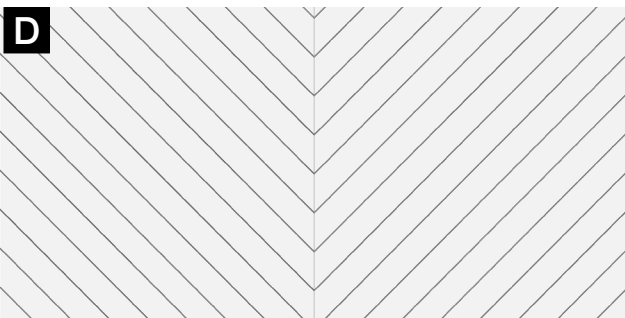
Picture Frame Pattern



Breaker Board Pattern







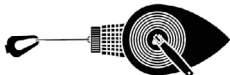




Linear Pattern
(without butt joint)



Herringbone Pattern

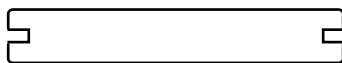
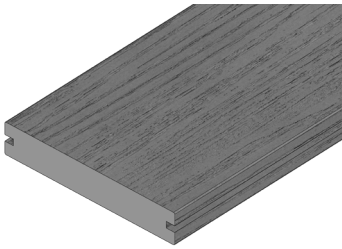
TOOLS REQUIRED

INNOWOOD products can be worked with ordinary woodworking tools such as:

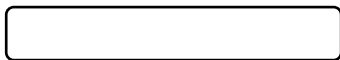
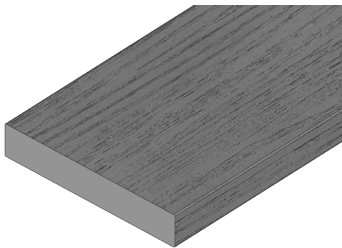
		
Circula Saw & Crosscut Mitre Saw	Cordless Driver	Counter Sink Bit
		
Level	Chalk Line	Carpenters Square
		
Rubber Mallet	Tap Measure	Pencil

Note:
To ensure long-term performance, we recommend that a professional trade person carry out the installation. The installation **MUST** be carried out in accordance with these instructions including the use of all trims and accessories.

Decking, Fascia & Fasteners



Grooved-Edge Decking Board
(140mm x 24mm)



Square-Edge (Fascia) Board
(140mm x 24mm)



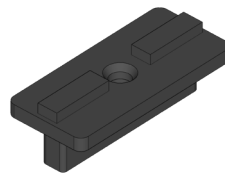
INNOWOOD Adjustable Countersink Drill



Decking/Fascia Plug



Starter Clip (SS 304)



Hidden T-Clip Connector
(45mm x 20mm x 13.5mm)



PLUS-DEK™ Concealed Hidden Fastener
Screw @Seasoned Timber Sub-Frame
SS 304 4.2x45mm T15 Bit Cheese Head
Self-Tapping Screws



PLUS-DEK™ Concealed Hidden Fastener
Screw @Metal Sub-Frame
SS 304 4.2x45mm T15 Bit Cheese Head
Self-Drilling Screws



PLUS-DEK™ Face-Fastener Screws
@Seasoned Timber Sub-Frame
Starbon® SS 316 x 65mm long Type 17
Screws



PLUS-DEK™ Face-Fastener Screws
@Metal Sub-Frame
StarBorn® Grade 410 10g x 40mm Long
Self-Drilling Screws

Other Compatible Fixing System Below: (Available from Distributor)

Camo universal decking clip system Refer to
Camo Hidden Fasteners
(<https://timberprices.com.au/product-category/camo-fasteners/>)



Edge Clip



Timber Substrate Wedge Clip



Metal Substrate Wedge Clip



INNOWOOD PLUS-DEK™ Touch Up Paint

To complete your deck with a seamless finish, INNOWOOD PLUS-DEK™ Touch Up Paint is available in all six colours to perfectly match each composite decking board. It's specifically designed for use on cut ends to help conceal exposed composite and maintain a consistent appearance across your deck.

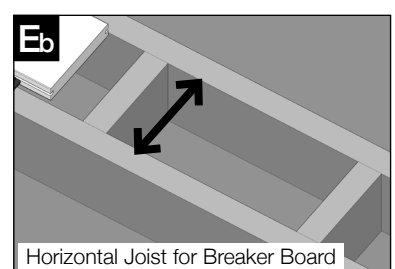
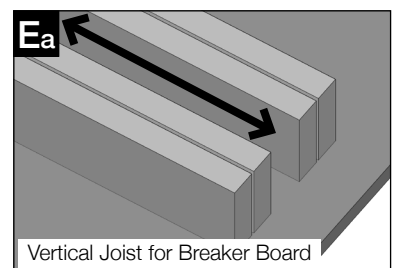
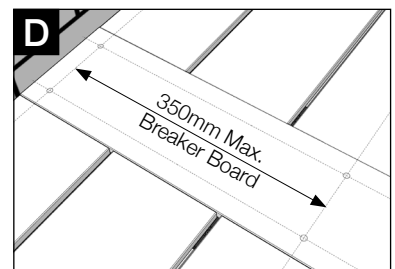
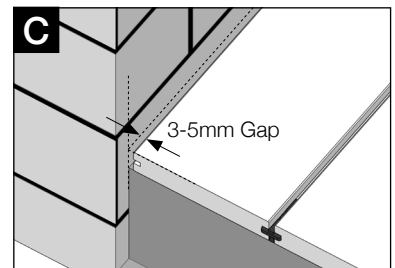
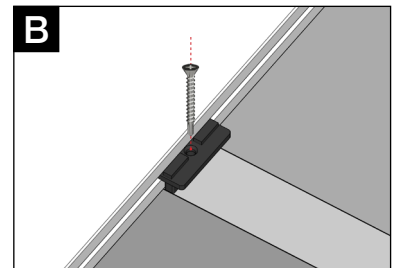
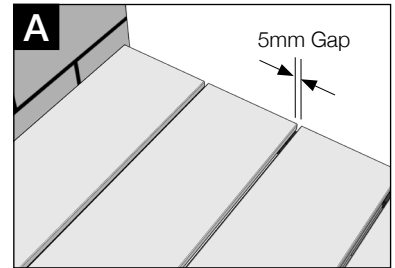
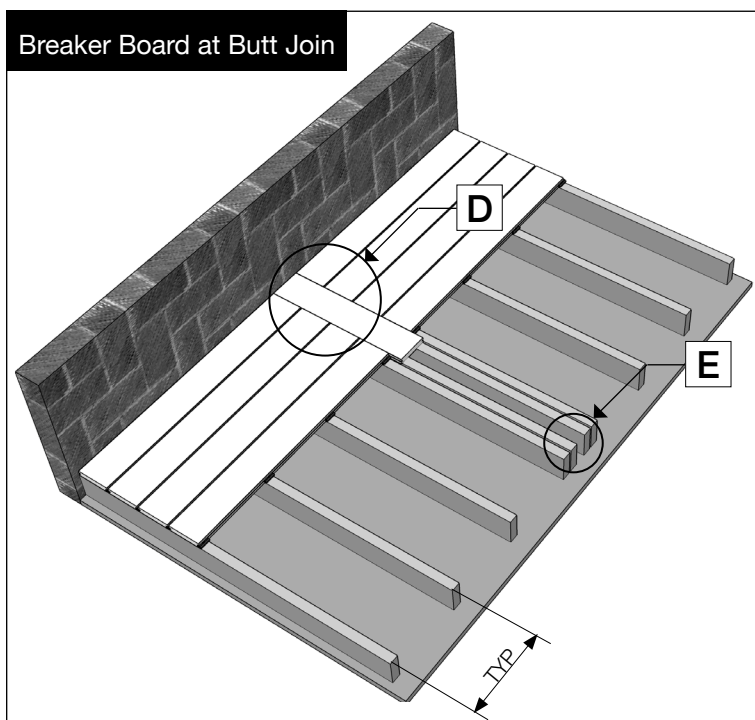
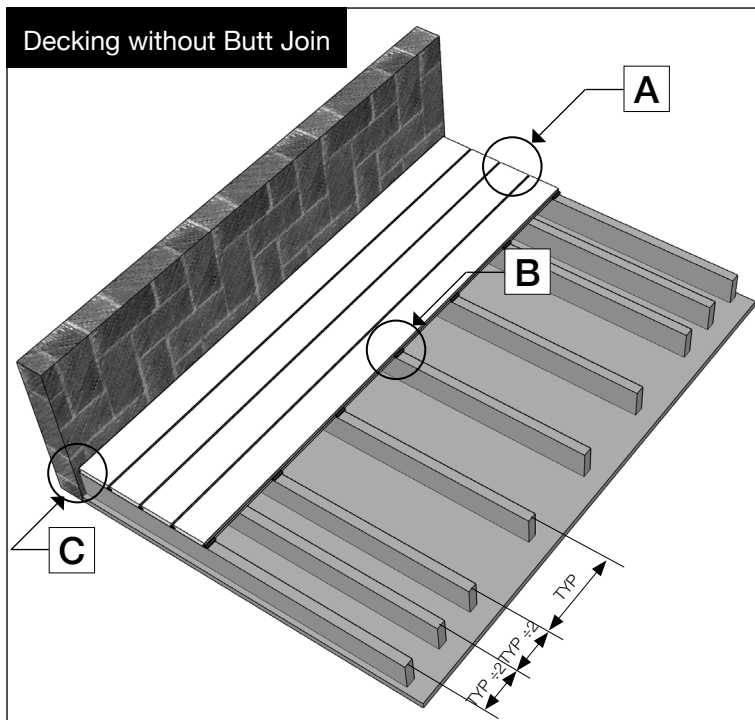
INSTALLATION TIPS

Read Tips Before Installing

- Framing span to be set as Max. 400mm for residential and Max. 350mm for commercial.
- Used INNOWOOD PLUS-DEK™ starting board as a starter and working towards the other side of the decking layout.
- Hidden T-Clip Connectors are used between each INNOWOOD PLUS-DEK™ Boards.
- Breaker Board Framing is to be set Max. 350mm.
- Plugs are used for Trim Strip, Final Board, Breaker Board, or Beside Board.

Caution:

All the end of boards need to be fixed using Face-Fastener Screw System.

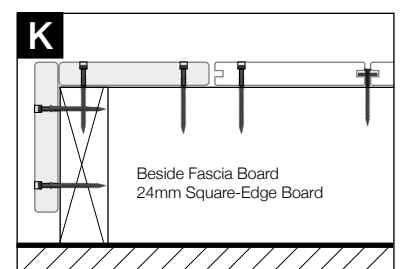
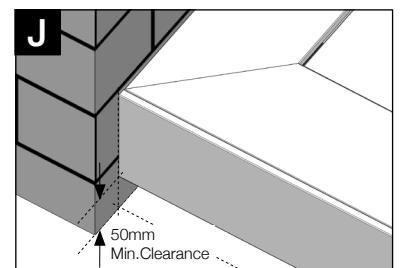
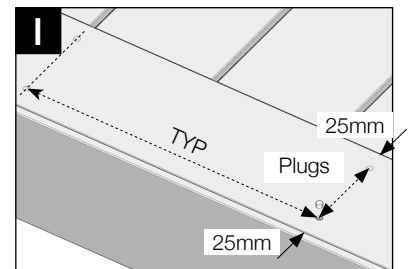
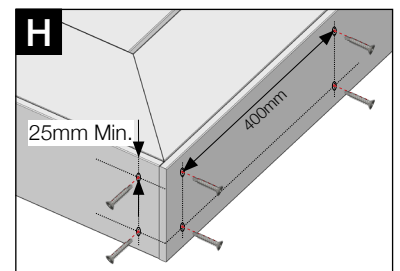
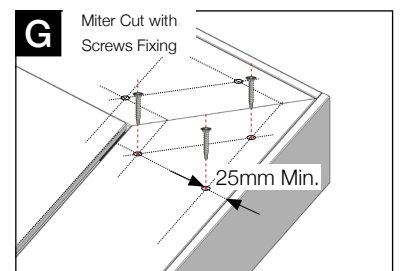
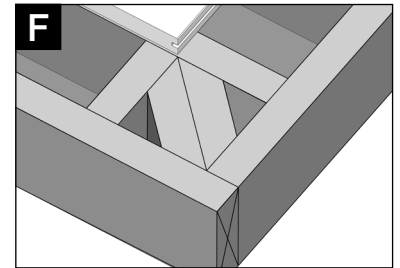
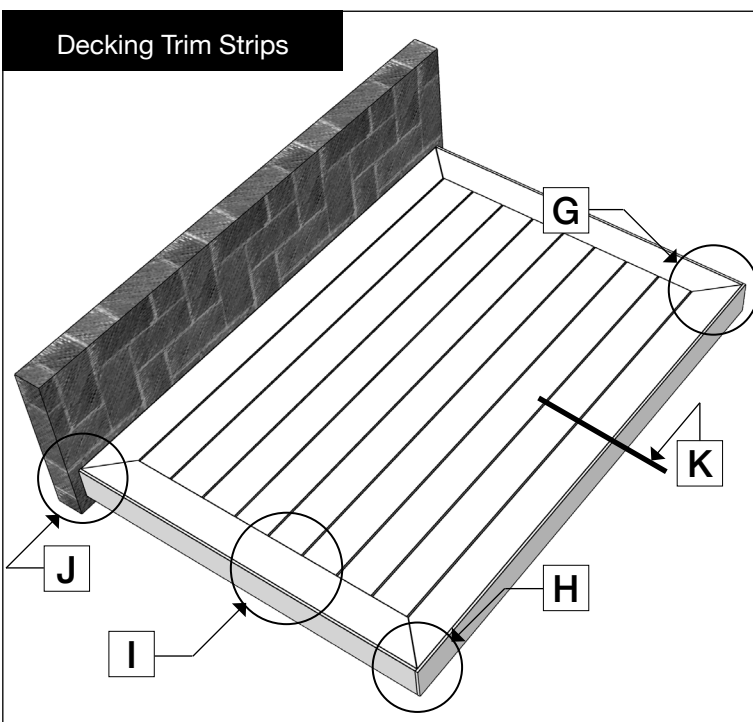
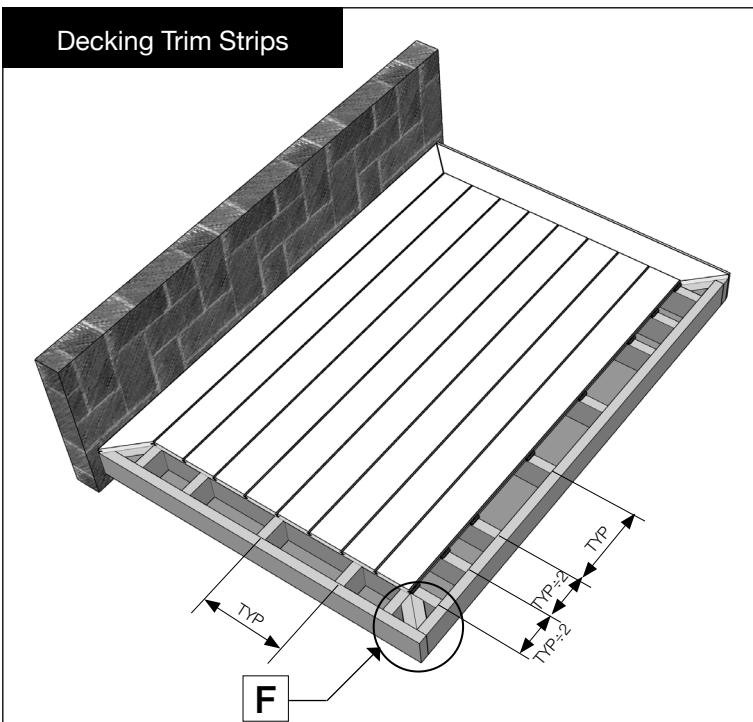


Framing Design Requirements:

TYP	1/2 TYP
Residential = 400mm Max. Commercial = 350mm Max.	Additional Joist at EACH END of Decking

Screw Type Requirements:

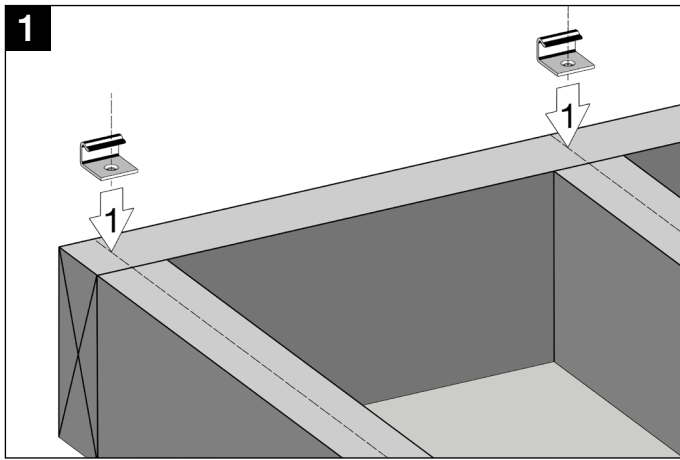
Joist Type	Concealed Clip Fastener Decking Screw	PLUS-DEK Plug Screws
Metal	SS304 4.2mm x 45mm T15 Bit Cheese Head Self-Tapping Screws	StarBorn® Grade 410 10g x 40mm Long Self-Drilling Screw
Seasoned Timber	SS304 4.2mm x 45mm T15 Bit Cheese Head Self-Tapping Screws	Starbon® SS 316 x 65mm long Type 17 Screws



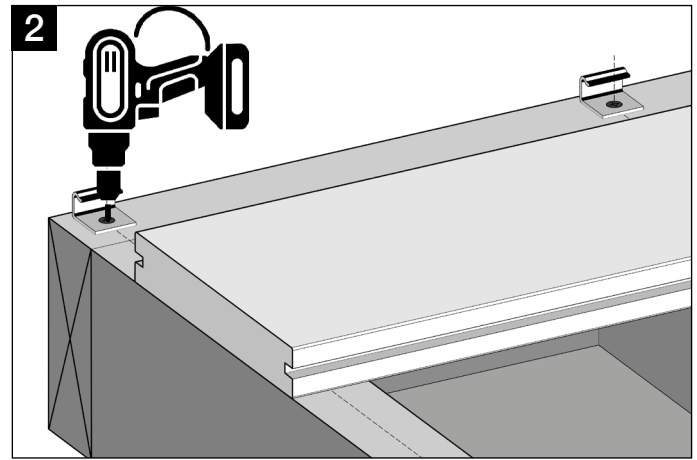
INSTALLATION INSTRUCTIONS

PLUS-DEK™ Concealed Clip System Installation Instructions

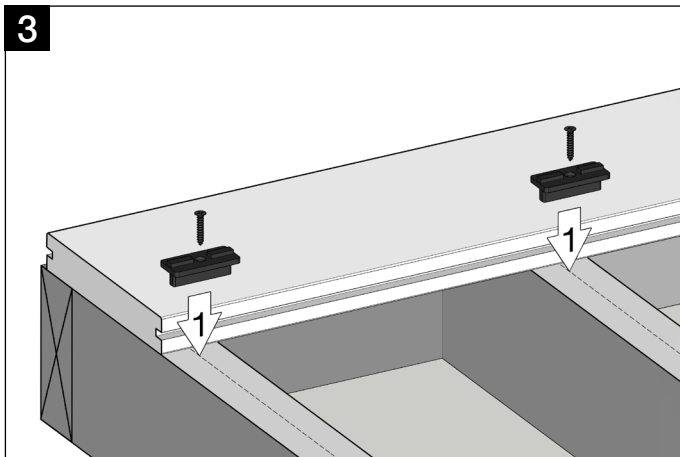
Note: Cut Boards to required length using dropsaw observing required clearance.



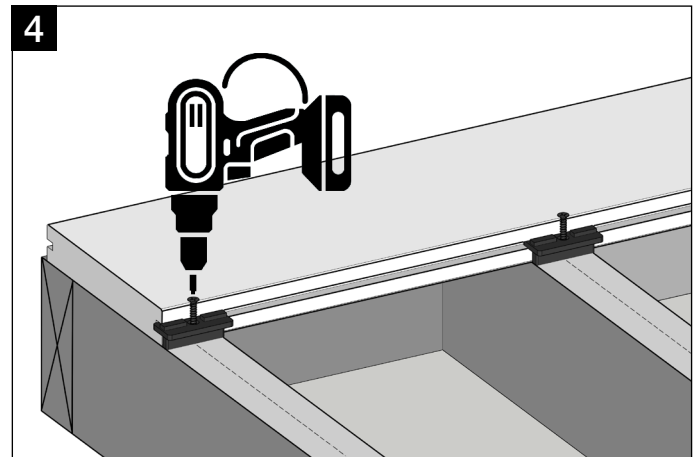
- 1** Use the **STARTER Clip** provided for the first board. Space clips refer to the application categories that 350mm for commercial and 400mm for residential.



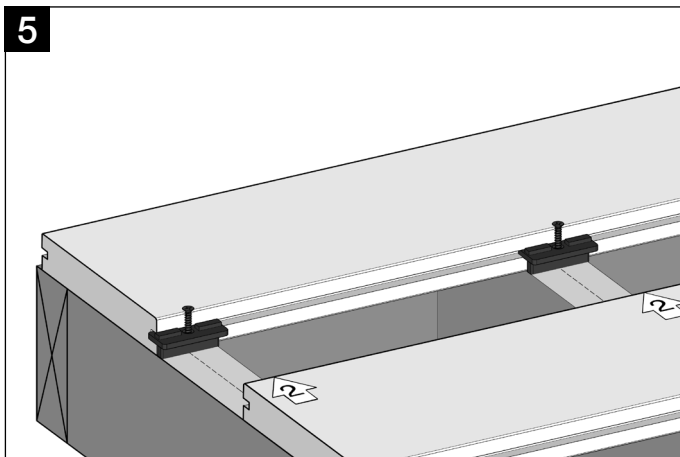
- 2** Position the first board into the **STARTER Clip Fasteners**. Ensure that the board is fully inserted into the clips and gently push the **Grooved-Edge Board** down to lock it in place.



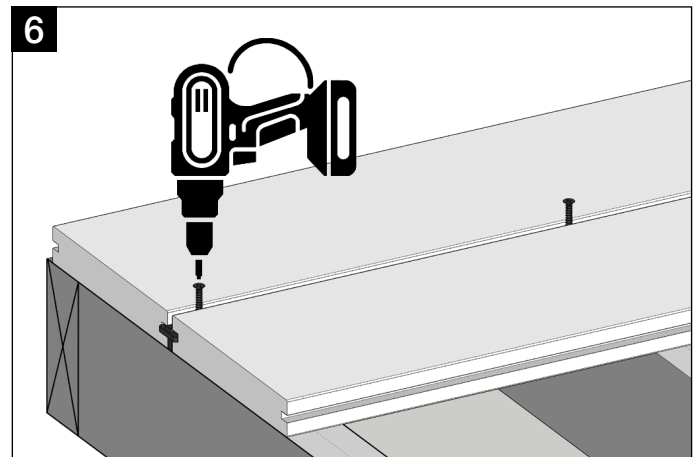
- 3** Align **HIDDEN T-Clip Connector** with each joist and press into **Grooved-Edge Board** until fully engaged. Screw hole should be lined up with the center of the support joist.



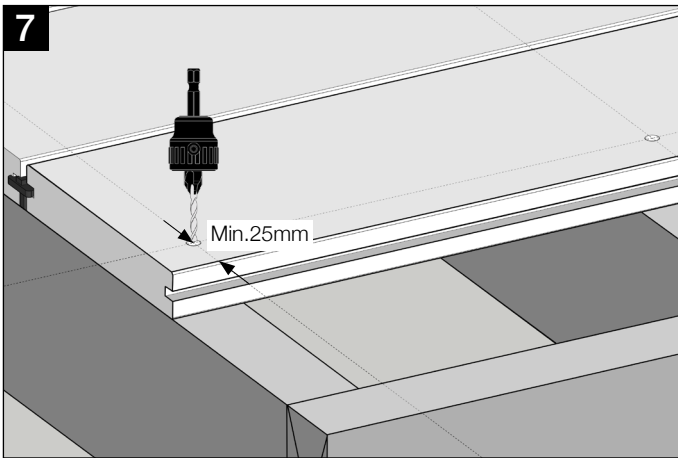
- 4** Insert provided **CONCEALED Black Screws** through the fastener screw holes however do not fully tighten at this stage.



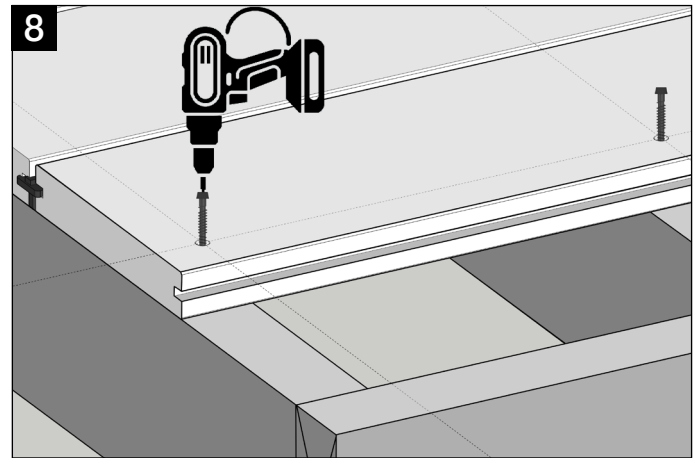
- 5** Position the second board press into the **HIDDEN T-Clip Connector** until fully engaged into the clips.



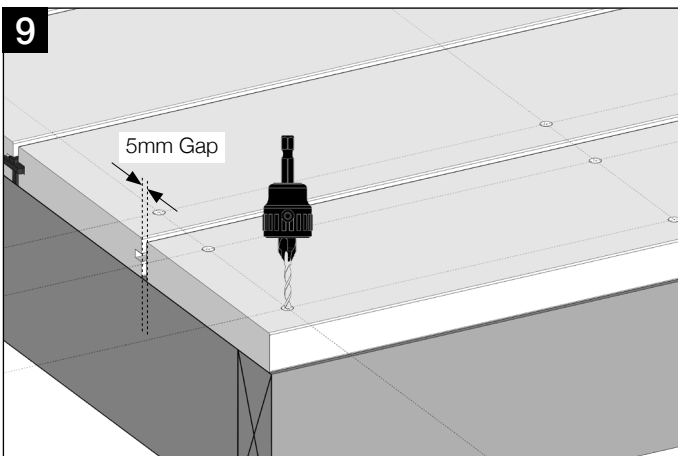
- 6** Now tighten **HIDDEN T-Clip Fasteners** between 1st & 2nd board and repeat step 3 to 5 until the 2nd-to-last board is to be installed.



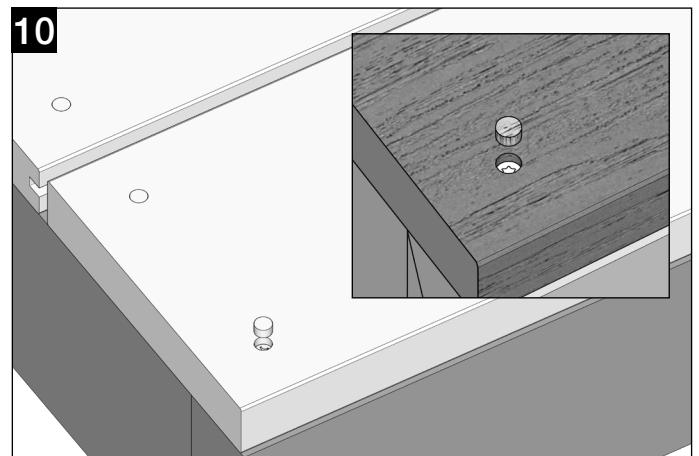
- 7** To install the second-to-last board, fully insert it into the hidden clip fasteners. Using the provided **Router Bit**, pre-drill holes positioned Min. 25mm from the edge of the groove on the opposite side (same size at the end of the board). Afterward, be sure to clean out any debris.



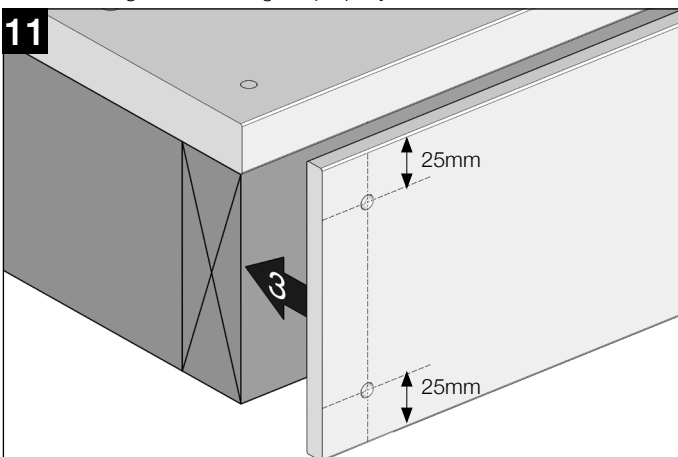
- 8** For the best results using an 18V or higher cordless drill at a 90° angle. Drive the **PLUG Screws** into the decking until the bit releases from the screw.



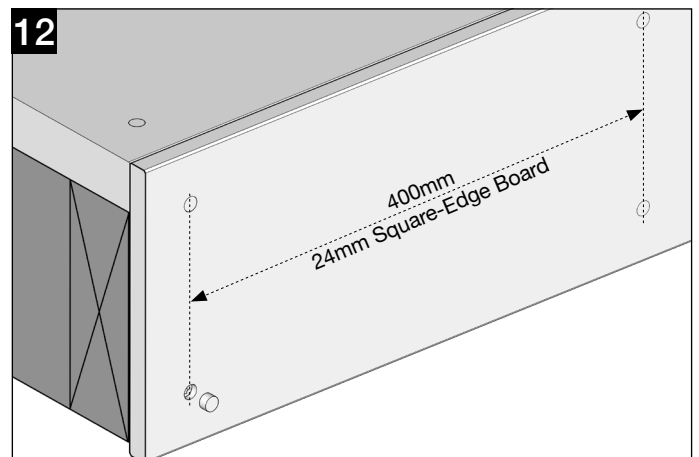
- 9** To install the final board, recommend to take the **Square-Edge Board** and align it with a 5mm gap from the second-to-last board. Pre-drill holes at both the end and the edge of the board, positioning them a minimum of 25mm from the edge. Ensure that all edge holes are aligned properly.



- 10** Drive the **PLUG Screws** into the decking until the bit releases from the screw. Place **PLUG** into all the cored holes and gently tap flush with deck surface, make sure to use a rubber mallet to avoid damaging the PLUS-DEK surface.



- 11** Pre-drilled holes in the **Square-Edge Board** and spacing in 400mm CTRS. A minimum of two screws are required on the width face of the board. Drive the **PLUG Screws** into the **Beside Boards** until the bit releases from the screw.



- 12** Place **PLUG** into all the cored holes and gently tap flush with deck surface, make sure to use a rubber mallet to avoid damaging the surface.

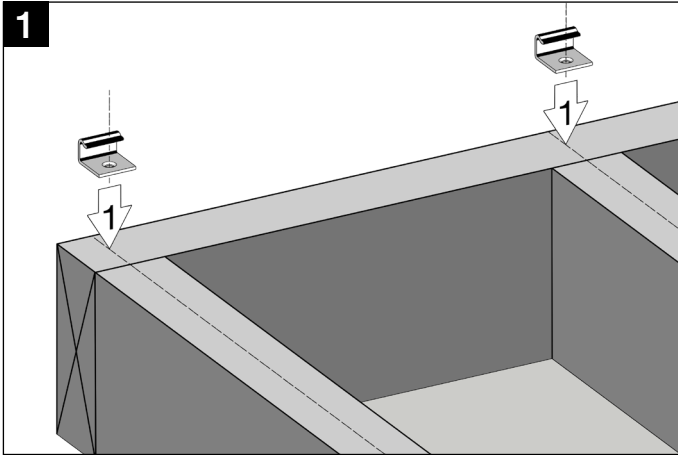
INSTALLATION INSTRUCTIONS

PLUS-DEK™ Face-Fastening System Installation Instructions

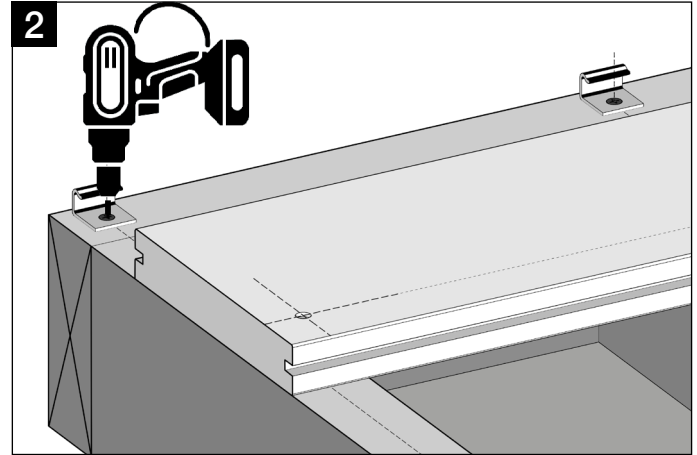
Recommend for large temperature shifts area and rooftops.

Note: 1. Cut Boards to required length using dropsaw observing required clearance;

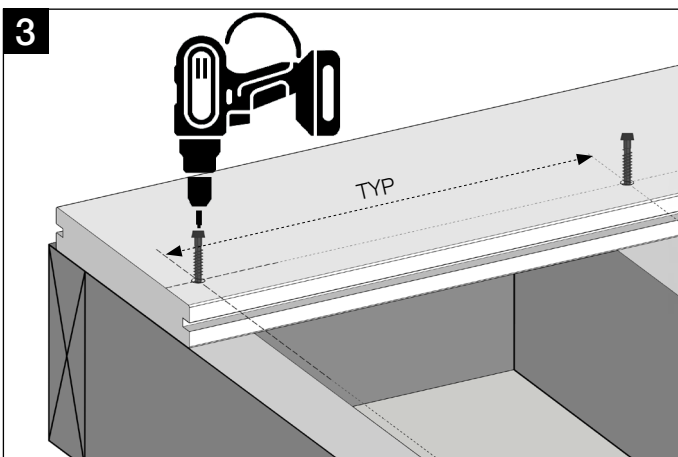
2. Pre-drill holes on each board follow the framing design requirements before installing the decking board for this system.



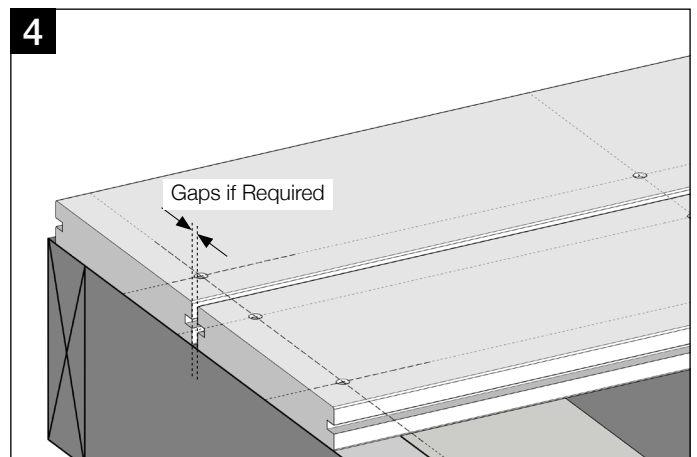
- 1** Use the **STARTER Clip** provided for the first board. Space clips refer to the application categories that 350mm for commercial and 400mm for residential.



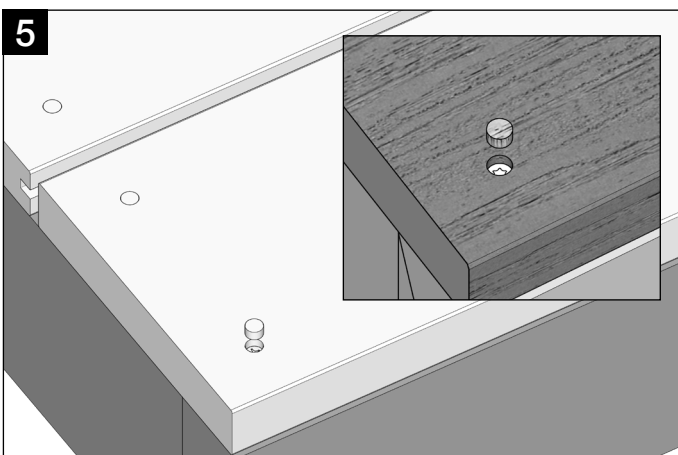
- 2** Position the first board into the **STARTER Clip** fasteners. Ensure that the board is fully inserted into the clips and gently push the **Groove-Edge Board** down to lock it in place.



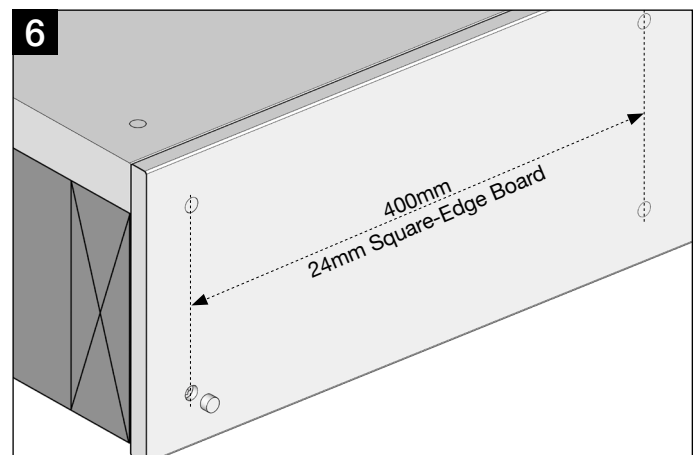
- 3** Drive the **PLUG Screws** into the decking with pre-drilled holes until the bit releases from the screw.



- 4** Align the second board with the first board, allowing for any necessary gaps. Use the **PLUG Screws** to secure the board. Repeat this process for each subsequent boards until reaching the last one which is the **Square-Edge Board**.



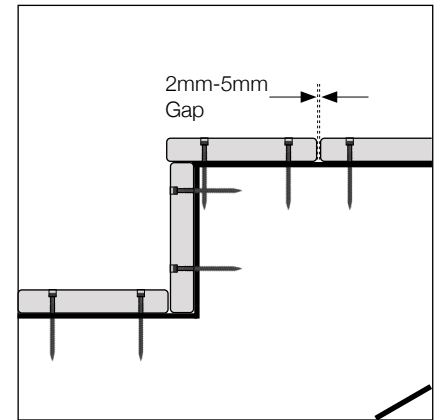
- 5** Place **PLUG** into all the cored holes and gently tap flush with deck surface, make sure to use a rubber mallet to avoid damaging the **PLUS-DEK™** surface.



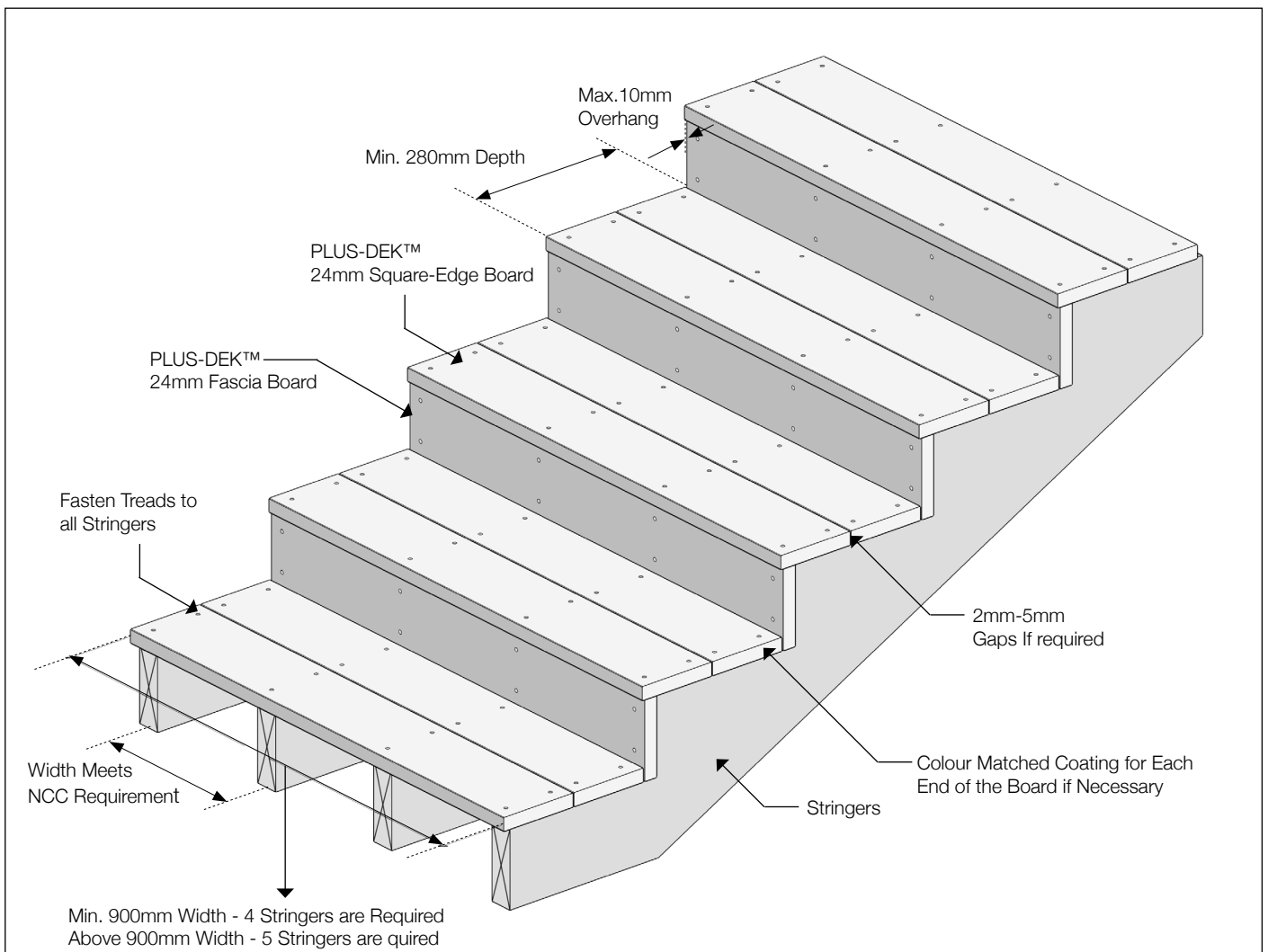
- 6** Attach the **24mm Square-Edge Board** to complete the finishing touches on the edge.

Stair Tread Installation

- Stair treads built with **INNOWOOD PLUS-DEK™** must meet requirements of Australian Natural Construction Code (NCC).
- **INNOWOOD PLUS-DEK™** can be installed as stair tread with a max. span 300mm.
- When installing Treads and Risers, use two screws per every stringer.
- Most building codes require the stair treads to be constructed under the following requirements:
 - > Stairways must be at least 900mm wide
 - > Stair treads must be at least 280mm deep
- Gapping between **PLUS-DEK™** Boards on stair treads should be 2mm-5mm if required.
- Overhang on a stair tread should not exceed more than 10mm.
- All **Face Riser Screws** must be stainless steel.



Note: Ensuring that **INNOWOOD PLUS-DEK™** stair treads meet the above standards, particularly concerning structural integrity, load-bearing capacity, and safety features, is crucial. For specific product compliance, consulting with the manufacturer or a structural engineer is recommended.



NOTES



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