



NewTechWood
AUSTRALIA

Avenue Decking
Installation Guide

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Important Notes

Please read all of the instructions before starting

BEFORE STARTING

- It is recommended that you check with local building codes for any special requirements or restrictions.
- The diagrams and instructions outlined in this guide are for illustration purposes only; they are not meant to replace, or imply replacement of the expertise of a licensed professional.
- Any construction or use of NewTechWood must be in accordance with all local zoning and/or building codes.
- The consumer assumes all risks and liabilities associated with the construction and use of this product.

INTENDED USE

- This product is designed for outdoor use.
- This product is NOT intended for use as columns, support posts, beams, joist stringers, or other primary load-bearing members.
- Any other use or modification of this product is considered improper use and can cause significant hazards.

SAFETY INSTRUCTIONS

- **Important: This product must not be used as fall protection and does not have technical approval for such purposes.**
- Always wear the appropriate safety equipment to avoid risk of injury. The following safety equipment is recommended: gloves, respiratory protection, long sleeves, long pants, safety footwear, and safety glasses.
- Check the product regularly for defects and traces of wear and tear.
- This product cannot be used as installation for structural support.
- Do not install directly on the ground or on top of existing decking boards. Always install on a code-compliant substructure or joists.
- **Note:** To keep your NewTechWood boards in top condition, always store and mount them correctly. Improper handling and storage may cause warping or deformation. Avoid placing heavy loads on a single point.
- Store the components in such a way that they are protected from rain and direct sunlight. The latter could cause the material to heat up unnecessarily.
- Do not install during frosty or high temperature weather. The ideal ambient ground temperature is between +5°C and +25°C.

TOOLS

- Standard woodworking tools may be used. It is recommended that all blades have a carbide tip, and should have 60+ teeth. Standard stainless steel or acceptable coated deck screws are preferred.

ENVIRONMENT

- Make sure the surface for installation is clean, smooth, flat, and strong.
- Check the local building codes before installing any type of decking.
- If installation does not occur immediately, store the product on a flat surface at all times.

PLANNING

- Plan a layout for your decking before starting, to ensure the best possible design for your project. It is recommended to draw a site plan of your proposed project to minimise errors and achieve the best outcome.
- Note that building codes and zoning regulations generally apply to permanent structures, meaning anything that is anchored to the ground or attached to the house.

CONSTRUCTION

- NewTechWood products are NOT intended for use as columns, support posts, beams, joist stringers, or other primary load-bearing members.
- NewTechWood products must be supported by a code-compliant substructure.
- Whilst NewTechWood products are great for retrofitting, NewTechWood products CANNOT be installed directly on top of existing decking boards.

STATIC

- Like all co-extruded composite decking products, NewTechWood's boards may occasionally experience a build-up of static electricity under certain environmental conditions.
- Static is generally more likely to occur in areas with low humidity or dry weather and may also be influenced by factors such as the type of subframe materials used, particularly if they include metal components like balustrades.
- These conditions are outside of NewTechWood's control and, as such, static build-up is not covered under warranty.
- If static becomes noticeable, it can be reduced with an anti-static spray (e.g., ACL Staticide or similar product). These water-based solutions may need to be reapplied after rain or prolonged exposure to the elements. Alternatively, insulating key contact points, such as balustrades or door handles, with UV-resistant, outdoor-grade clear coating can help create a longer-term barrier. Multiple applications may be required for the best results.
- In most cases, any static build-up will naturally diminish over time as the decking surface settles and wears in.

CARE AND MAINTENANCE

- If building projects or renovations are taking place, cover the deck to prevent concrete or gyprock dust getting onto the deck. Mineral deposits left over from construction can mix with water and evaporate, leaving deposits behind which create a white haze on the deck's surface. It is recommended to leave the laying of your new deck until after all other works have been completed.

VENTILATION

- NewTechWood products CANNOT be installed directly onto a flat surface. Decking must be installed onto a substructure, to ensure there is adequate and unobstructed air flow beneath the decking to prevent excessive water and moisture build-up.
- Please refer to the NewTechWood Fixing Specification (Decking Span) table on page 9 for the minimum distance requirements between the ground surface and the deck boards.

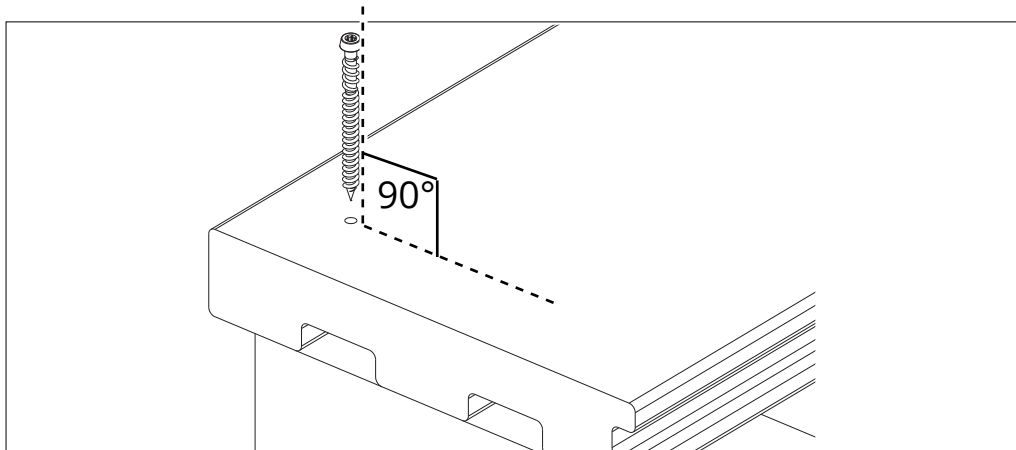
FIRE AND HEAT

- Excessive heat on the surface of NewTechWood products from external sources such as fire or reflected sunlight from energy efficient window products (low-emissivity, Low-E glass) can potentially harm NewTechWood products. Low-E glass is designed to prevent passive heat gain within a structure and can cause unusual heat build-up on exterior surfaces. This extreme elevation of surface temperatures, which exceeds that of normal exposure, can potentially cause NewTechWood products to melt, sag, warp, discolour, increase expansion/contraction, and accelerate weathering over time.
- Consumers who are concerned about possible damage by Low-E glass should contact the manufacturer of the product that contains Low-E glass for a solution to reduce or eliminate the effects of reflected sunlight.

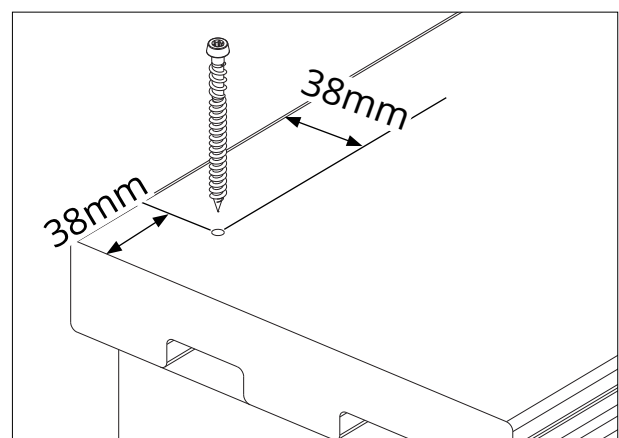
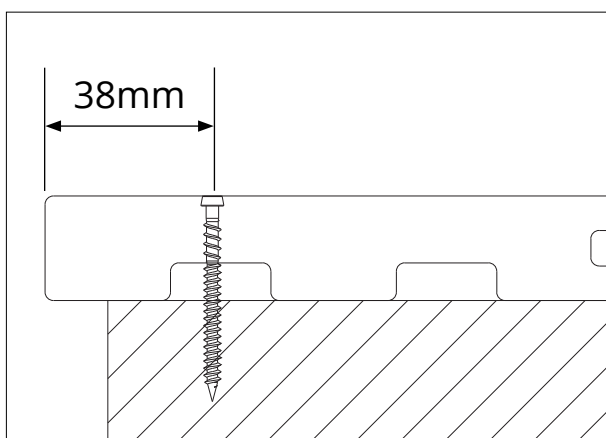
FASTENERS AND FACE-FIXING DECKING BOARDS

- NewTechWood composite decking boards are designed to be installed with the NewTechWood hidden fix system, which is available in 2 gapping options: 3mm or 5.5mm. The NewTechWood hidden fixing system allow the boards to expand and contract freely.
- It is not recommended to face-fix the complete deck as the decking boards may not perform as designed.
- If face-fixing is unavoidable, it is important to pre-drill the screw hole slightly larger than the screws to allow for any ongoing expansion and contraction. Depending on the type of screw used, it may be necessary to also countersink the holes to avoid "mushrooming of the cap layer".

- When fastening NewTechWood products, all screws that are face fastened must be driven in at a 90-degree angle to the decking surface. An extra joist should be added if a 90-degree angle cannot be used.



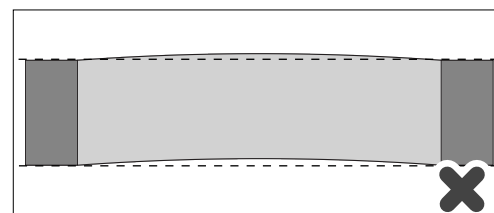
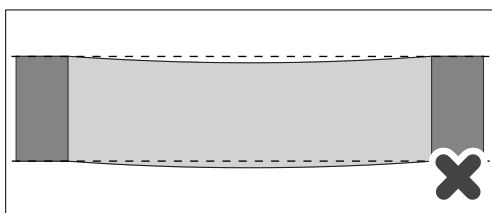
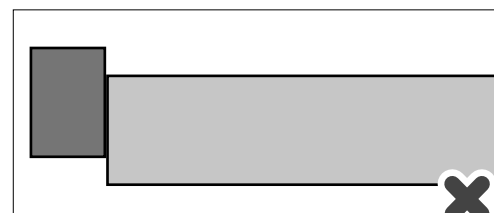
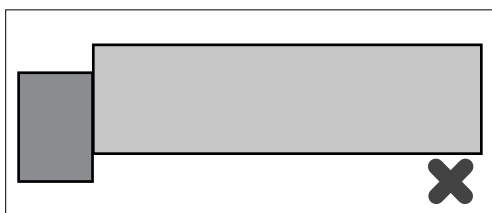
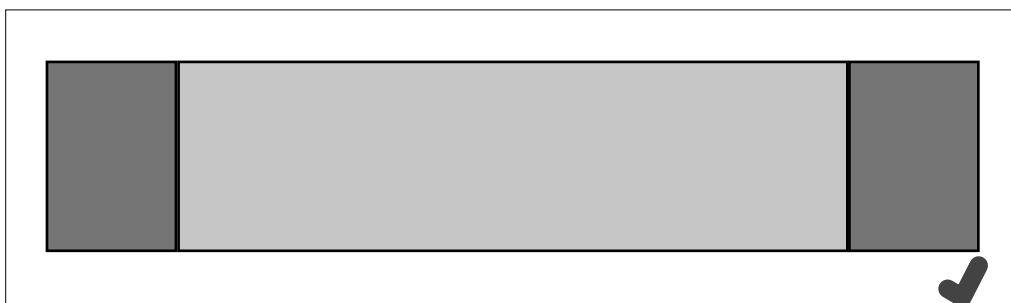
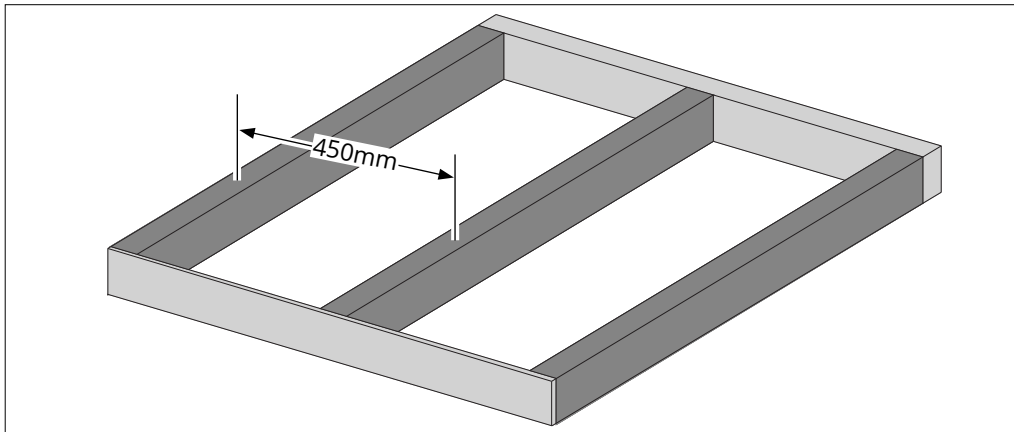
- Always fix fasteners to their own independent joists.
- Use only white chalk, straight boards, or string lines as templates for straight lines. Never use coloured chalk as they will permanently stain NewTechWood products and are not recommended.
- It is recommended to use stainless steel composite screws. When face-fixing fascias or picture frame boards, always drive the screw in at least 38mm from the ends and 38mm from the edges of the board.
- Always use screws designated for use with composite decking material / wood. Using screws that are not designed for composite material could potentially damage the decking.
- Always test the screws on a scrap piece of board to ensure the screws do not cause the surface of the decking to mushroom or bulge around the head of the screw. If this happens, change to a different brand of screw.
- If you are unsure which screw to use, contact the manufacturer for more information.



(Note: NewTechWood's Metal Fix screws are suitable for steel joists of up to 2mm in thickness. If thicker than 2mm, then each hole must be pre-drilled. Metal Fix clips are not covered under the warranty for fixing to Stratco Probeam or similar double-wall steel profiles.)

FRAMING

1. Determine the decking span, i.e., centre-to-centre joist spacing.
2. Ensure the frame is completely level before installing any boards.



Decking Span

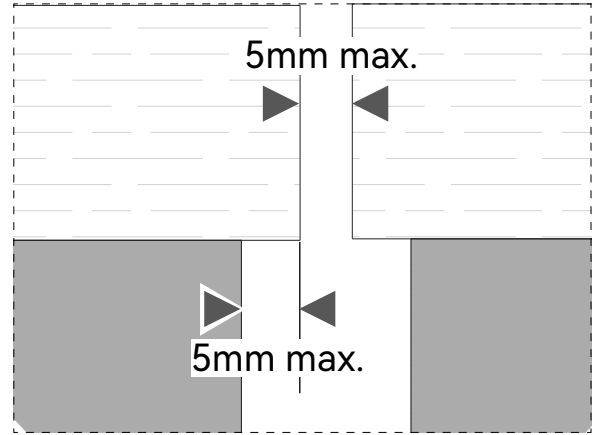
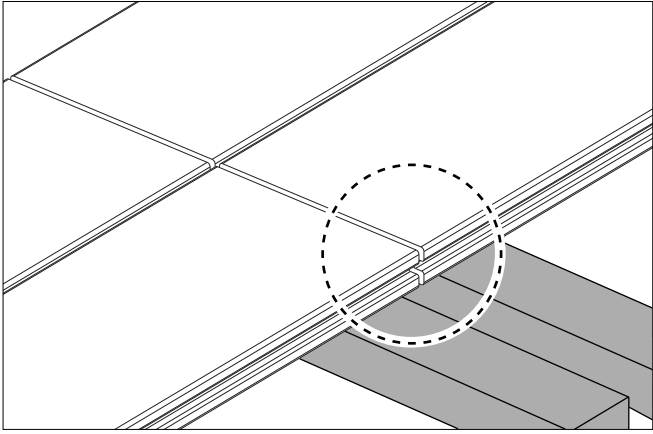
Code	Residential Span	Min. Ground Clearance Over Soil	Min. Ground Clearance Over Concrete
US92	450mm	100mm	40mm

Sealing the Ends

It is recommended to seal cut ends with an appropriate, clear, solvent-based sealer, especially for areas exposed to constant moisture, such as, but not limited to, areas around swimming pools, lakes, and spas.

JOISTS

- Each decking board must sit on its own joist.
- When two board ends butt to each other, always use a sister joist. Make sure there is a gap (maximum 5mm) between joists to allow water to drain between the joists. Excessive build-up of water over long periods can potentially result in swelling at the ends.



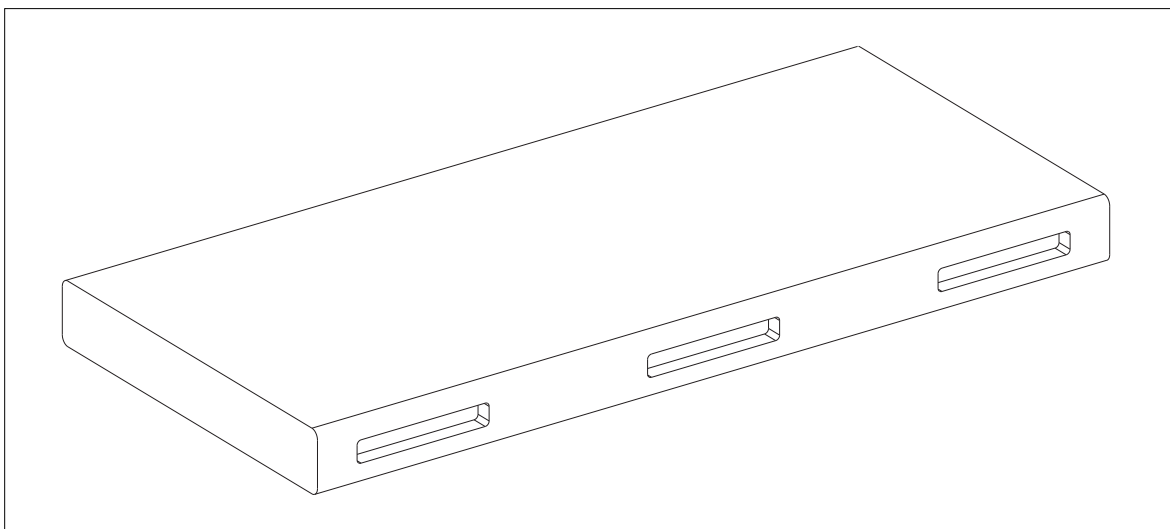
ACCLIMATISATION

- It is recommended that after delivery of the product that it is allowed to sit for at least 2 days to acclimate.
- Acclimating the boards will minimise shrinkage issues during and after installation.
- Always place the boards on a flat and even surface. If placed on an uneven surface, the boards may warp to the shape of the terrain.

ROUTING

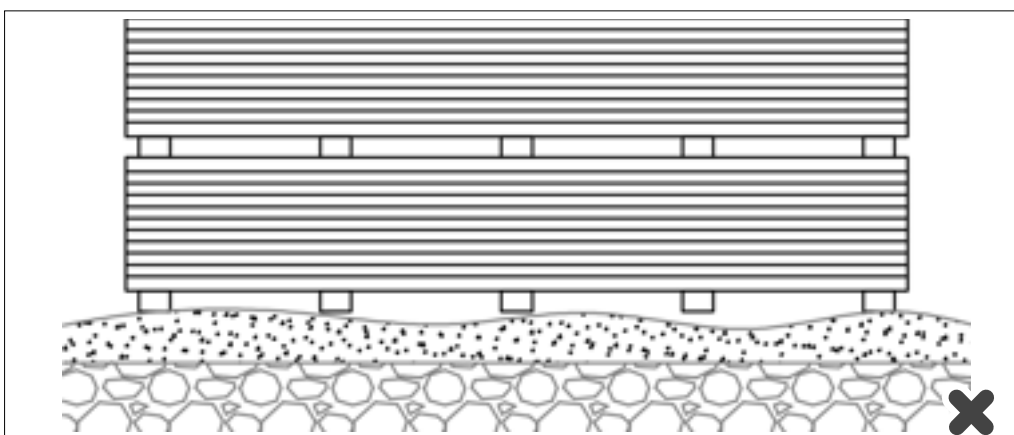
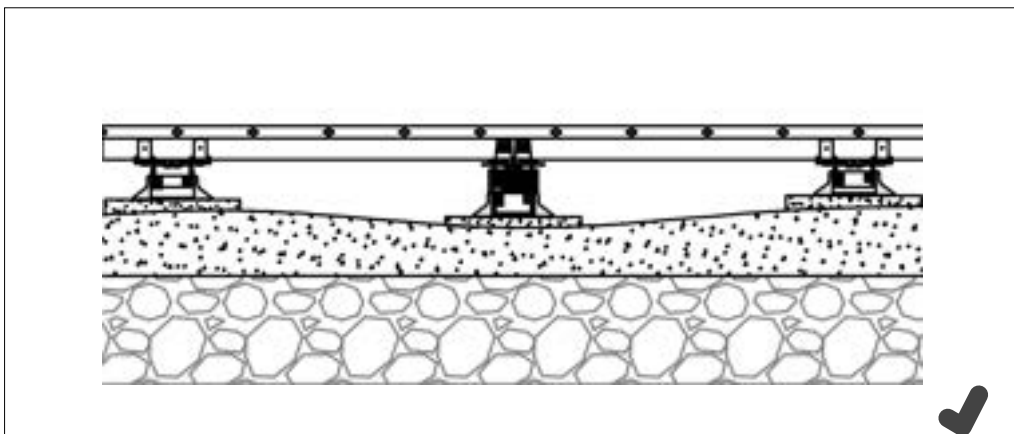
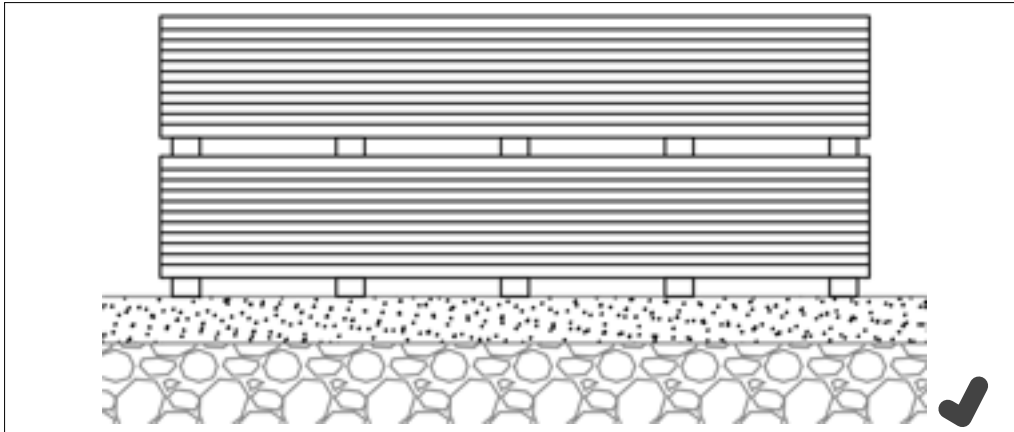
- Solid boards can be routed for hidden fasteners to be placed (see diagram below).
- Fascia boards can also be routed to allow for expansion and contraction.

Note: Boards should never be routed their entire length.



STORAGE

- Always store NewTechWood products on flat, solid surfaces. Surfaces such as dirt and grass are insufficient as they can move over time.
- Always store NewTechWood products on a flat surface on joists. If the surface is uneven, pedestals and jacks can be used.
- Never store NewTechWood products on an uneven surface as the products can warp and distort.



EXPANSION / CONTRACTION VALUES

- NewTechWood decking boards will expand and contract with changes in temperature.
- Fasten the decking boards according to the below gapping requirements.

		Installation Temperature (°C)							Gap (mm) to Leave Between Boards*	
		10	15	20	25	30	35	40		45
Length (m)*	1	1.2	1.4	1.2	1.0	0.8	0.6	0.4		0.2
	2.44	3.9	3.4	2.9	2.4	2.0	1.5	1.0		0.5
	2.8	4.5	3.9	3.4	2.8	2.2	1.7	1.1		0.6
	3	4.8	4.2	3.6	3.0	2.4	1.8	1.2		0.6
	3.66	5.9	5.1	4.4	3.7	2.9	2.2	1.5		0.7
	3.9	6.2	5.5	4.7	3.9	3.1	2.3	1.6		0.8
	4	6.4	5.6	4.8	4.0	3.2	2.4	1.6		0.8
	4.88	7.8	6.8	5.9	4.9	3.9	2.9	2.0		1.0
	5.4	8.6	7.6	6.5	5.4	4.3	3.2	2.2	1.1	

* If the decking boards have a **gap at each end**, halve the value shown.

Manual Calculation of Expansion / Contraction Values¹

Gapping =

CLE (°C) × Length of Board (m) × (Max. / Min. Temp in your region - Installation Temp (°C))

- Coefficient of Linear Expansion (CLE): 0.04mm/m (°C)
- Length of the Board (m)
- Installation Temperature (°C)
- Maximum or Minimum Temperature (°C) in your region:
 1. When installing at a low temperature, always use the maximum temperature in your region to calculate.
 2. When installing at a high temperature, always use the minimum temperature in your region to calculate.

¹ If you are still unsure what gapping to use, contact the manufacturer for assistance.

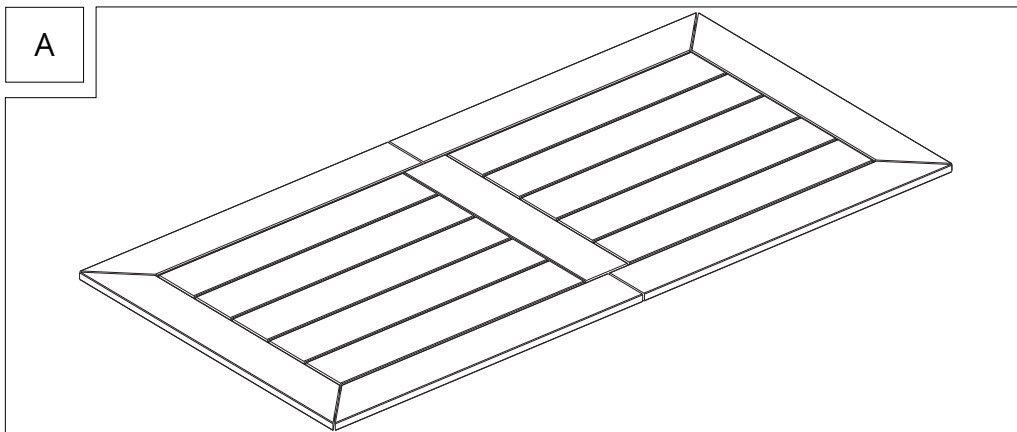
INSTALLATION

DECKING LAYOUT OPTIONS

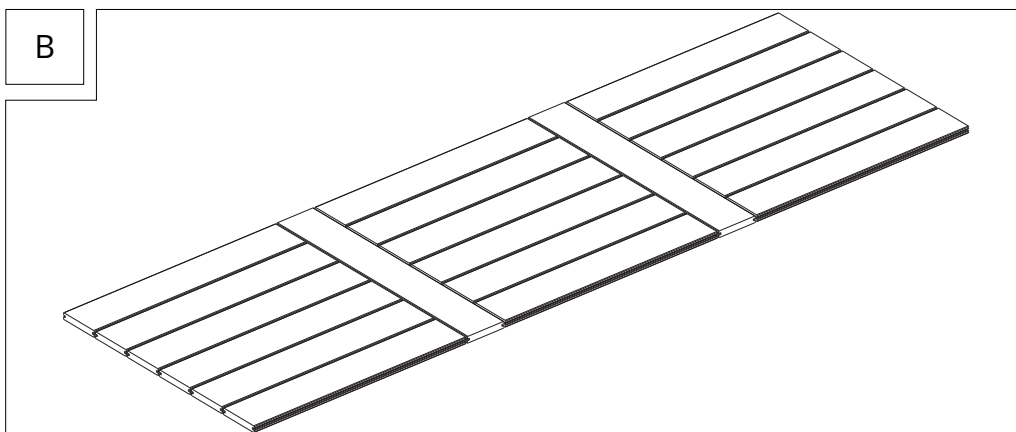
CAUTION

Balustrades, handrails, and the like must **never** be directly fixed to the decking board.

There are a plethora of decking patterns and designs to choose from. This installation guide is centred around two popular models:



Decking with a breaker board (a vertical board that divides the deck when it is too long) and picture framing (a border wrapping around the deck).



Decking with breaker boards (vertical boards that divide the deck when it is too long). Breaker boards help minimise the appearance of expansion and contraction.

STARTING BOARD INSTALLATION OPTIONS

When installing a deck, the first and last boards require starting and ending accessories. All other boards use hidden fasteners for installation.




There are 3 accessory options for a starting board:

Board	Accessory	Description	Screw Options	Notes
US93	CDS / CSM	Face-fixing Screw	Timber Fix / Metal Fix	Use for fixing the starter board.
US92	MG3	Starter Clip	Timber Fix / Metal Fix	Use if starting a deck from the wall.
US92	K37	Start / End Clip	Timber Fix	Use as a starter or finishing clip.

The last board is face-fixed and requires pre-drilling and face-fixing screws.

There are several hidden fastener options for the middle boards:

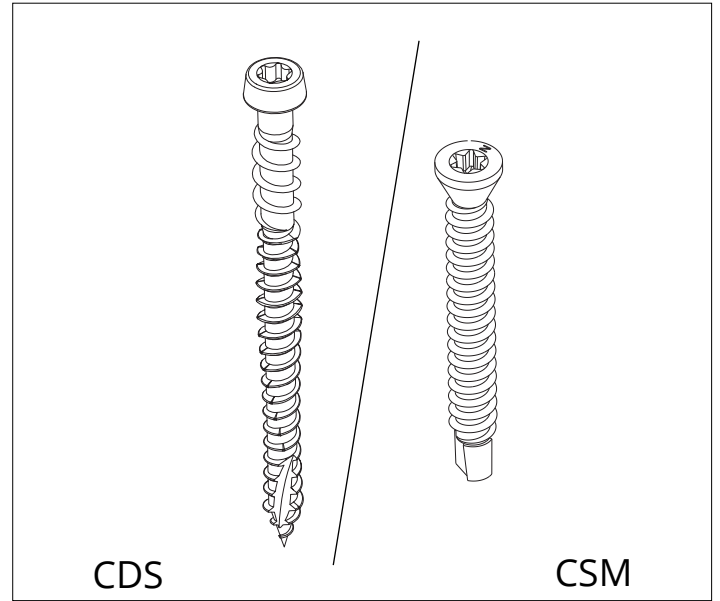
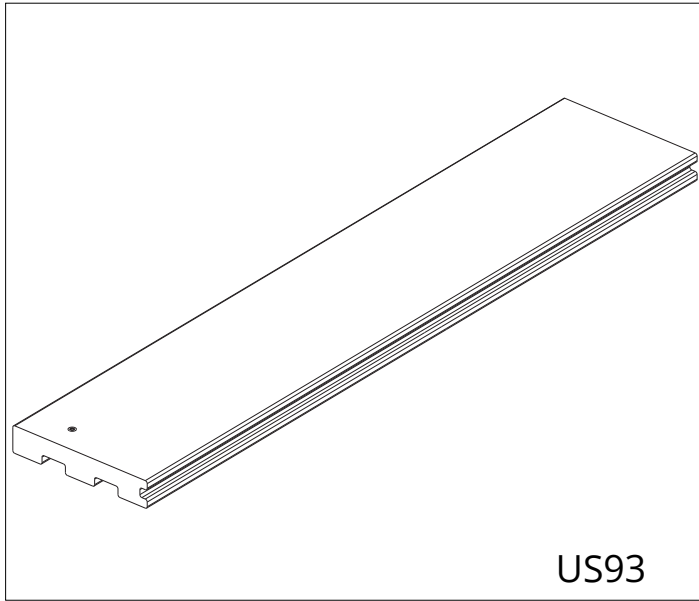
Clip	Description	Screw Size	Timber Fix	Metal Fix
TC28T	TC28 Timber Fix Clip	8G × 35mm	✓	✗
MG10 MBK FS 75	NTW 3mm Clip	8G × 30mm	✓	✗
MG10 LBK FS 75	NTW 3mm Locking Clip	8G × 30mm	✓	✗
Cobra M-Clip (Metal)	Cobra M-Clip (Metal)	8G × 35mm	✗	✓
MG10 MBK KJ 75	NTW 3mm Clip	10G × 25mm	✗	✓
MG10 LBK KJ 75	NTW 3mm Locking Clip	10G × 25mm	✗	✓

Decking / Fascia Screw	Size	Decking	Fascia	Timber Fix	Metal Fix
 CS	8G × 50mm	✗	✓	✓	✗
 CDS	10G × 65mm	✓	✓	✓	✗
 CSM	12G × 45mm	✓	✓	✗	✓

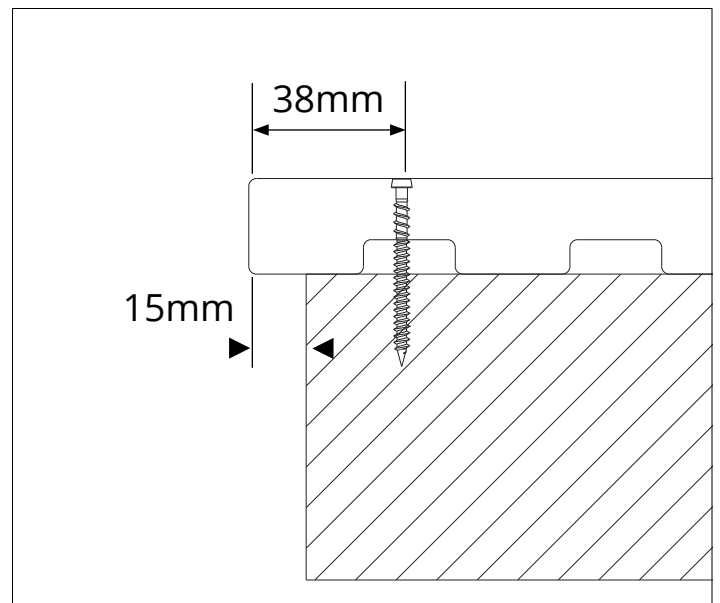
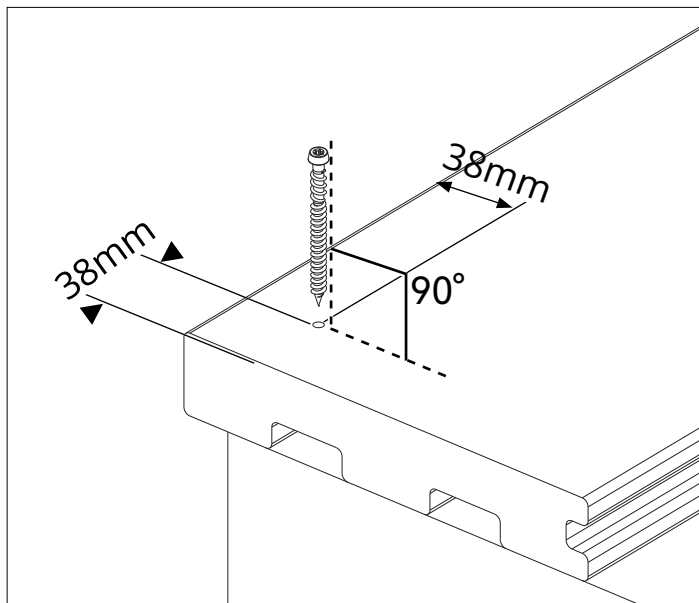
(Note: NewTechWood's Metal Fix screws are suitable for steel joists of up to 2mm in thickness. If thicker than 2mm, then each hole must be pre-drilled. Metal Fix clips are not covered under the warranty for fixing to Stratco Probeam or similar double-wall steel profiles.)

Option 1: US93 • Face-Fixing

Items needed:

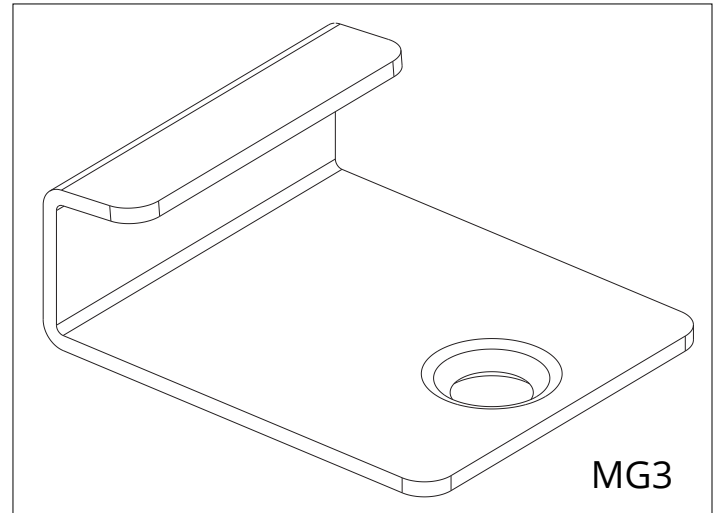
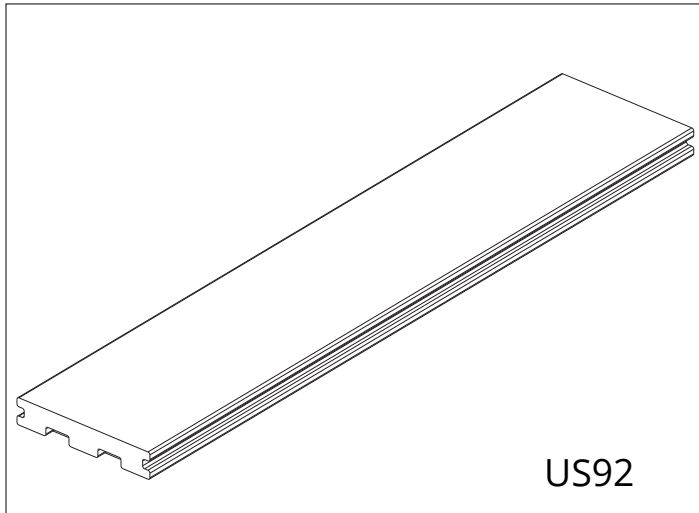


1. Pre-drill the screw hole into the joist, then fix the starting accessory onto the joist along the length of the deck.

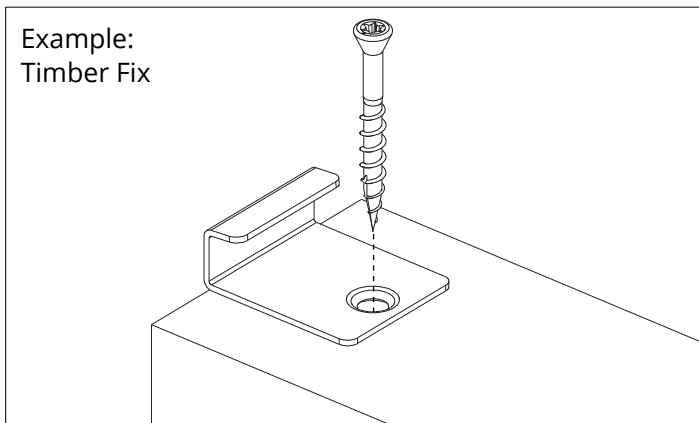


Option 2: US92 • MG3

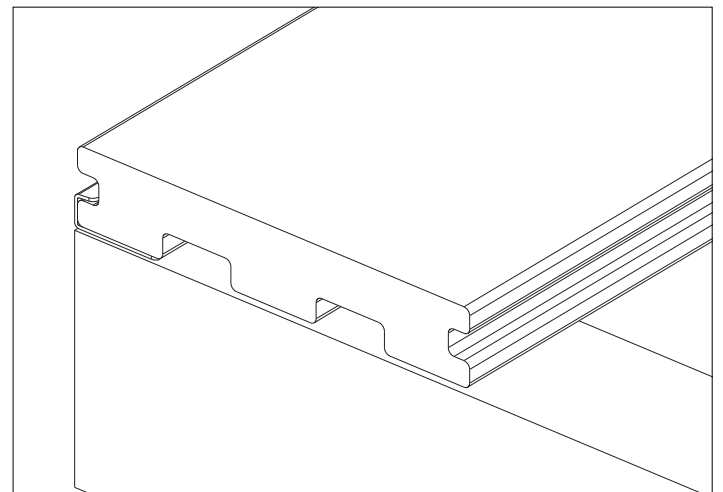
Items needed:



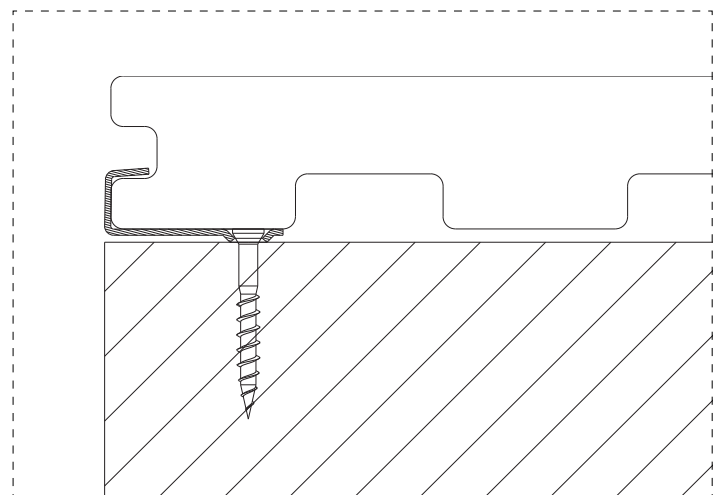
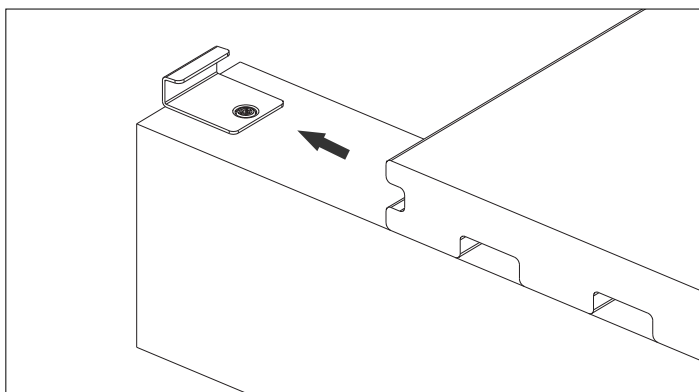
1. Pre-drill the screw hole into the joist, then fix the starting accessory onto the joist along the length of the deck.



3. The below diagrams show what the board looks like once pushed into place, and where the screw sits.

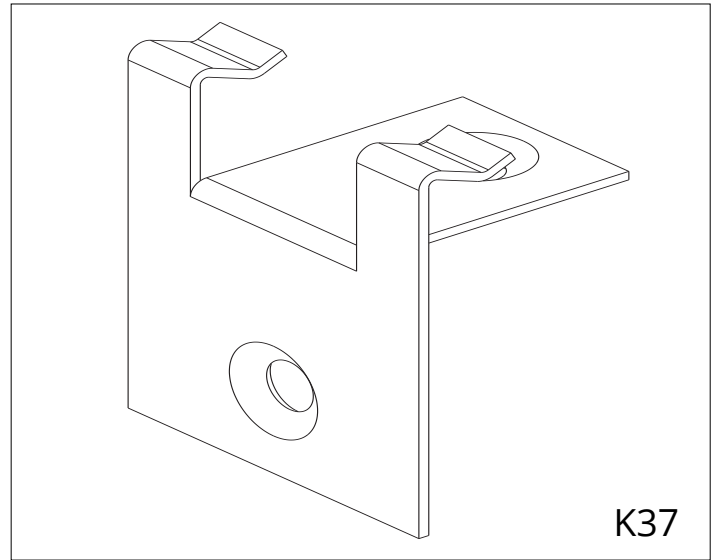
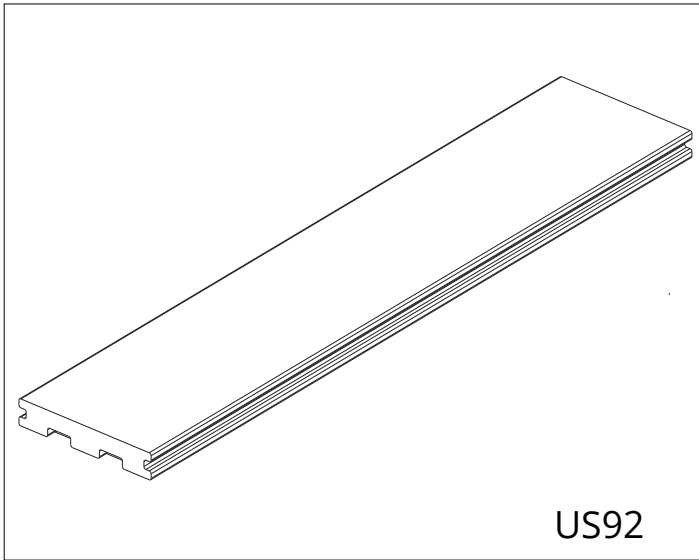


2. Push the first board into the starting accessory as shown in the diagram below.

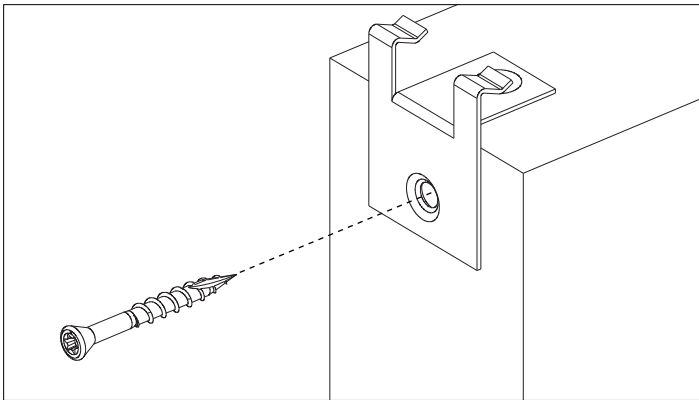


Option 3: US92• K37

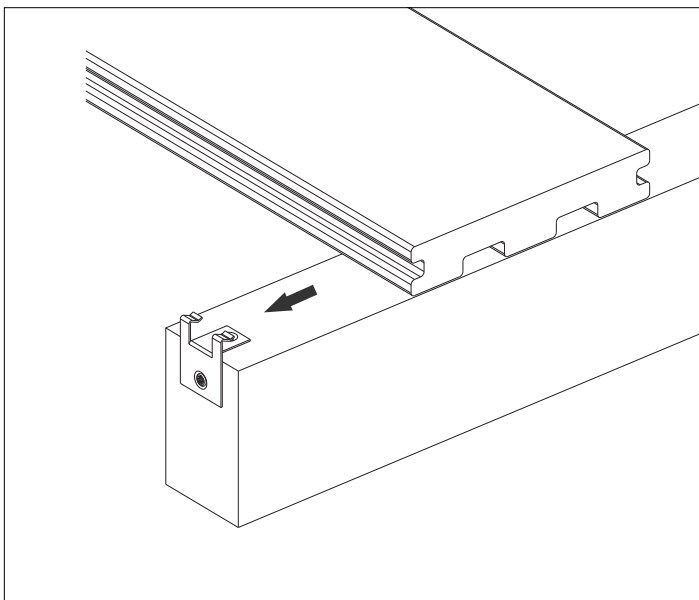
Items needed:



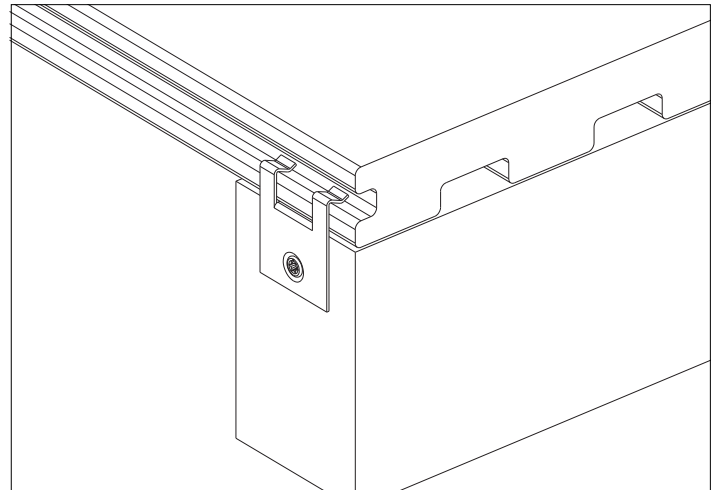
1. Pre-drill the screw hole in the joist, then fix the starting accessory onto the joist as shown below.



2. Push the first board into the starting accessory as shown below.



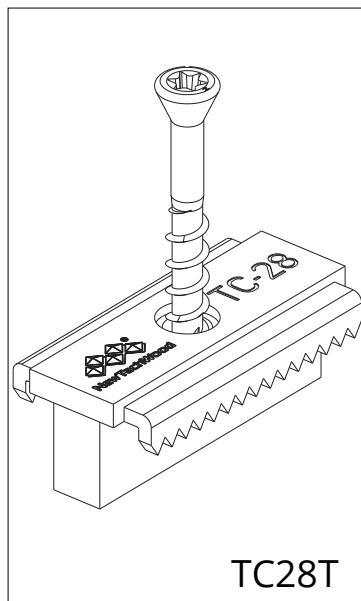
3. The below diagram shows what the board looks like once pushed into place, and where the clip sits.



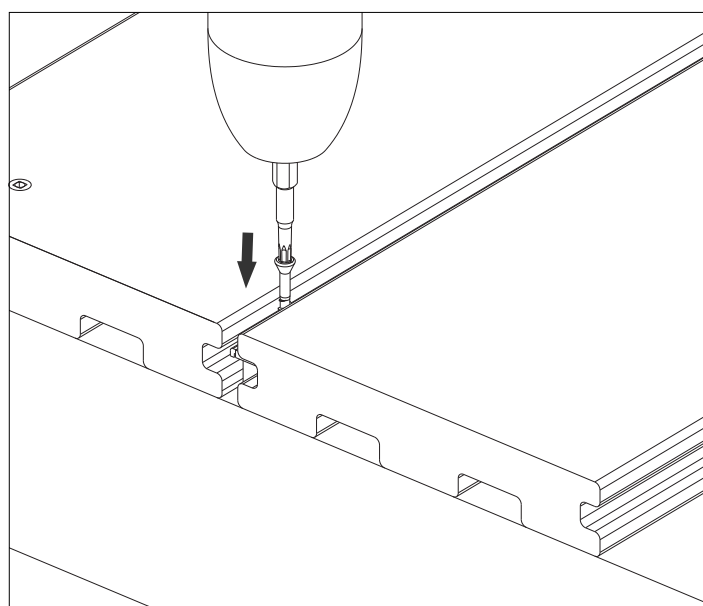
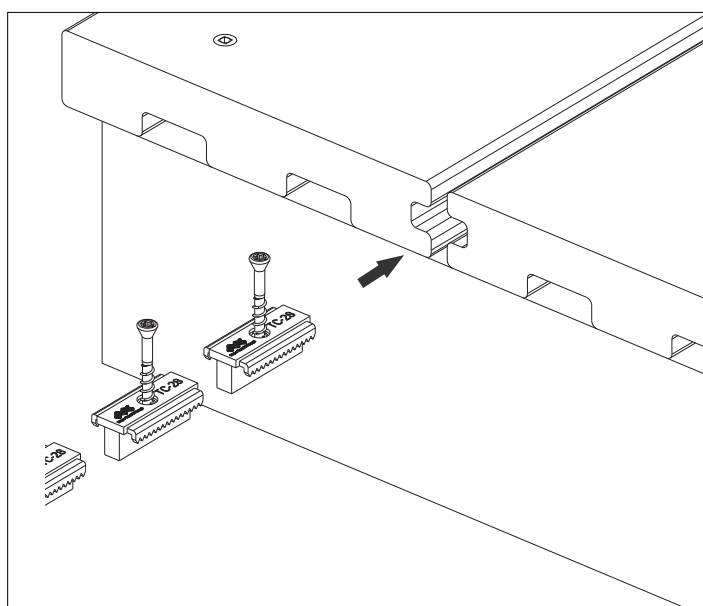
DECKING BOARD INSTALLATION OPTIONS

Option 1: TC28T

* 5.5mm Gap



1. Insert the TC28T clips into the grooves of two decking boards.



Note:

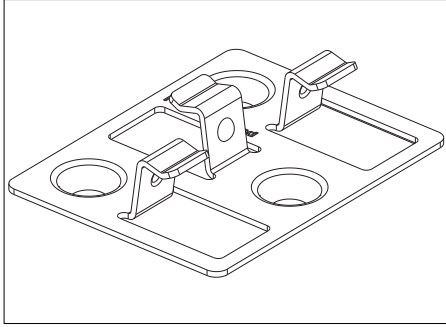
- Make sure each clip sits on its own, individual joist.
- When 2 board ends meet, always use a sister joist – each board must sit on its own joist.

2. Tighten each TC28T screw to secure the boards.
3. Repeat Step 2 for the remaining boards.
4. Go to Page 22 to continue the installation.

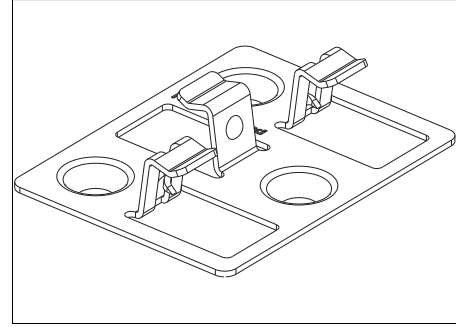
Option 2: MG10 MBK & MG10 LBK

- The MG10 MBK and MG10 LBK clips are used together to respectively control the contraction / expansion of the decking boards, and to lock the decking boards into place.
- Depending on the lengths of the decking board, each clip is placed in a specific location (see page 22 for details).

* 3mm Gap

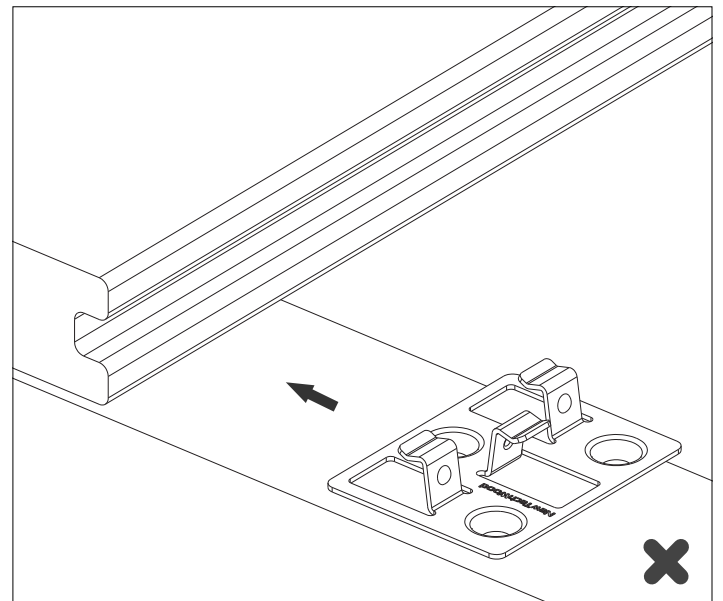
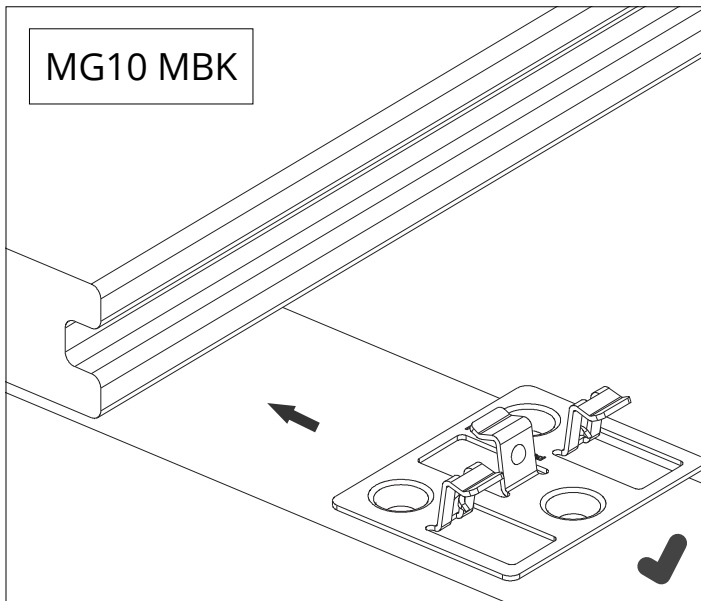


MG10 MBK
Manages contraction / expansion of decking boards.

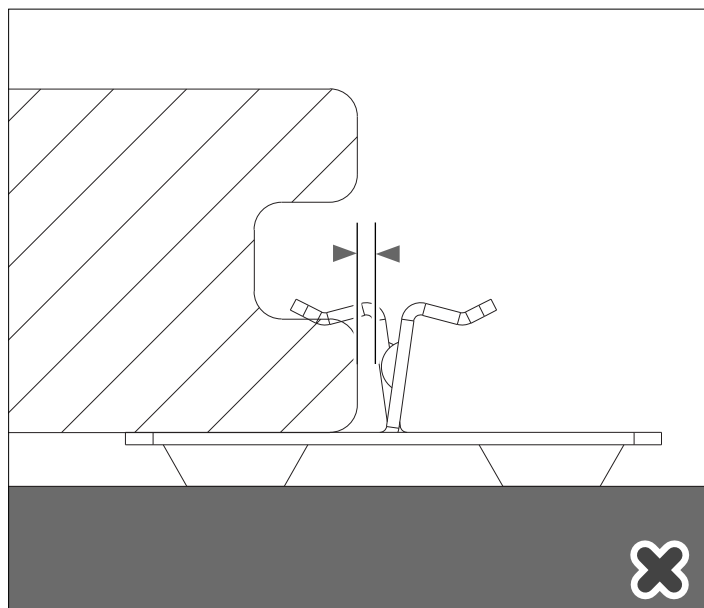
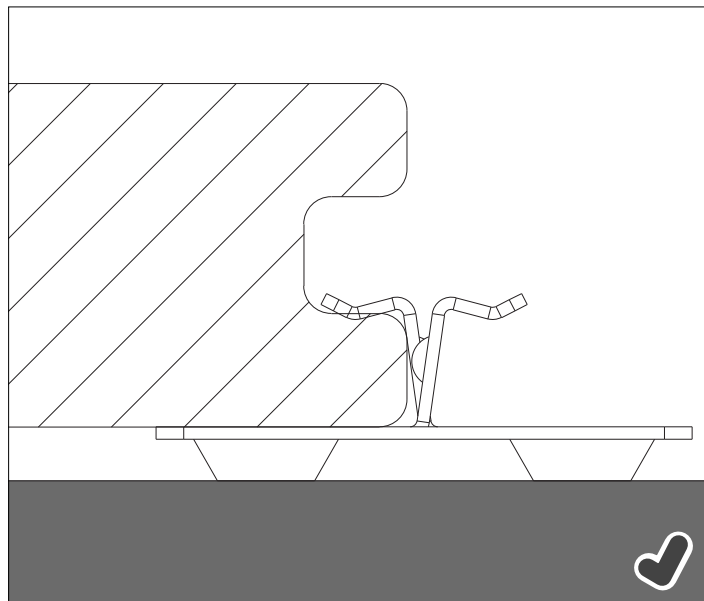


MG10 LBK
Locks decking boards into place.

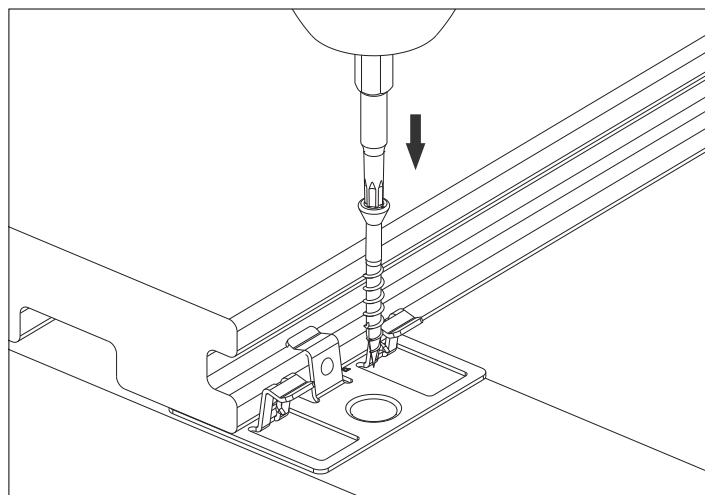
1. Push the MG10 MBK clip into the groove of decking board. Note the direction of the top of the clip. The below diagrams illustrate the correct and incorrect directions of the MG10 MBK clip.



2. Make sure all clips sit snugly against the decking board. Note that the clip's centre is directly up against the decking board; there is no gap between the clip and the board. The below diagrams show the correct and incorrect positions of the clip.

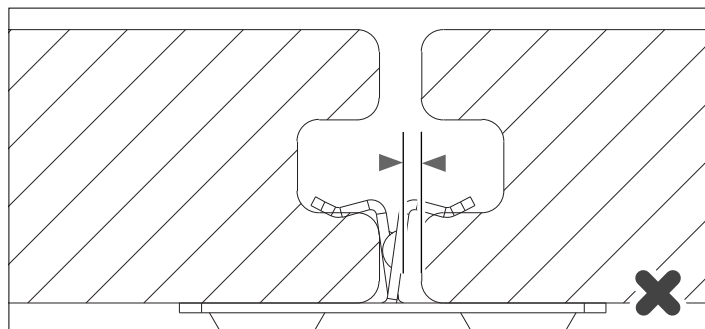


3. When the clip sits snugly against the board, screw it into place.

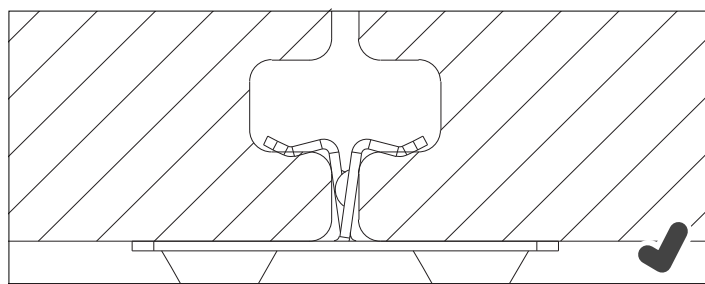
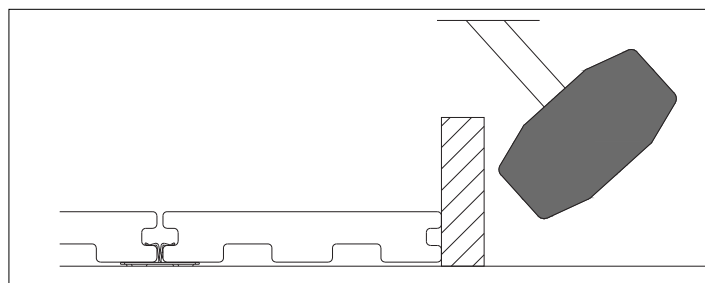


4. When all clips are fitted snugly, and screwed into place, slot in the next decking board.

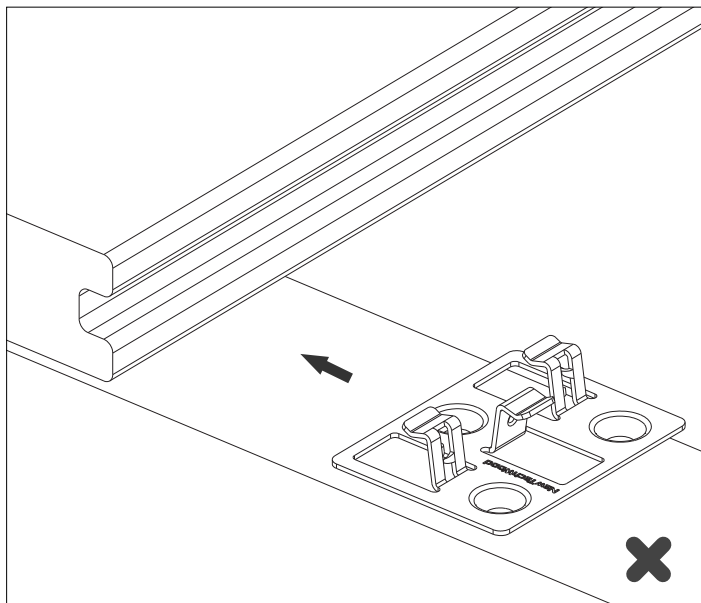
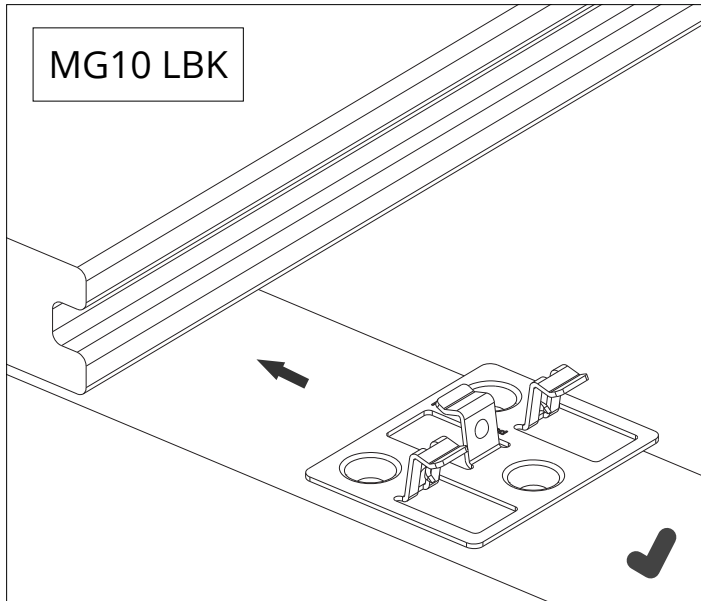
Note that the decking board is directly against the clip's centre; there is no gap between the clip's centre and the board.



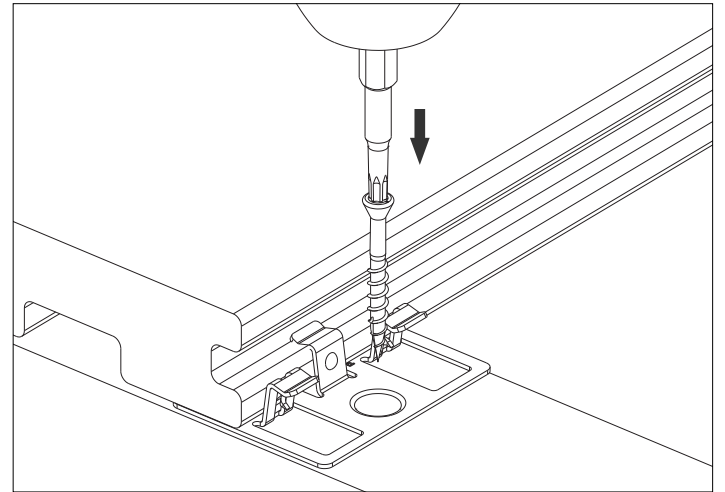
5. If necessary, use a rubber mallet and non-metal support block to nudge the decking board into place.



6. Push the MG10 LBK clip into the groove of the decking board. Note the direction of the top of the clip. The below diagrams illustrate the correct and incorrect directions of the MG10 LBK clip.

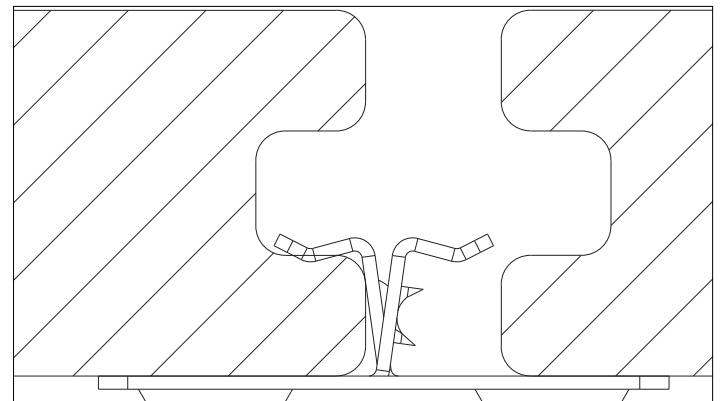


7. When the clip sits snugly against the board, screw it into place.

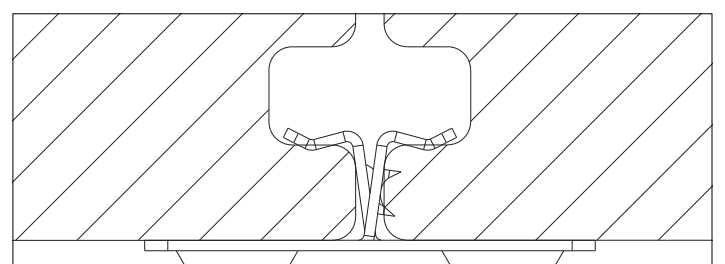
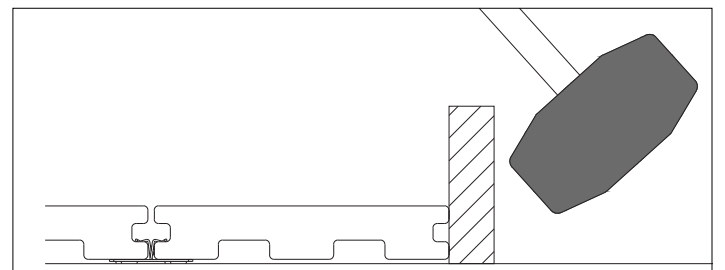


8. When all clips are fitted snugly, and screwed into place, slot in the next decking board.

Note that the decking board is directly against the clip's centre; there is no gap between the clip's centre and the board.



9. If necessary, use a rubber mallet and non-metal support block to nudge the decking board into place.

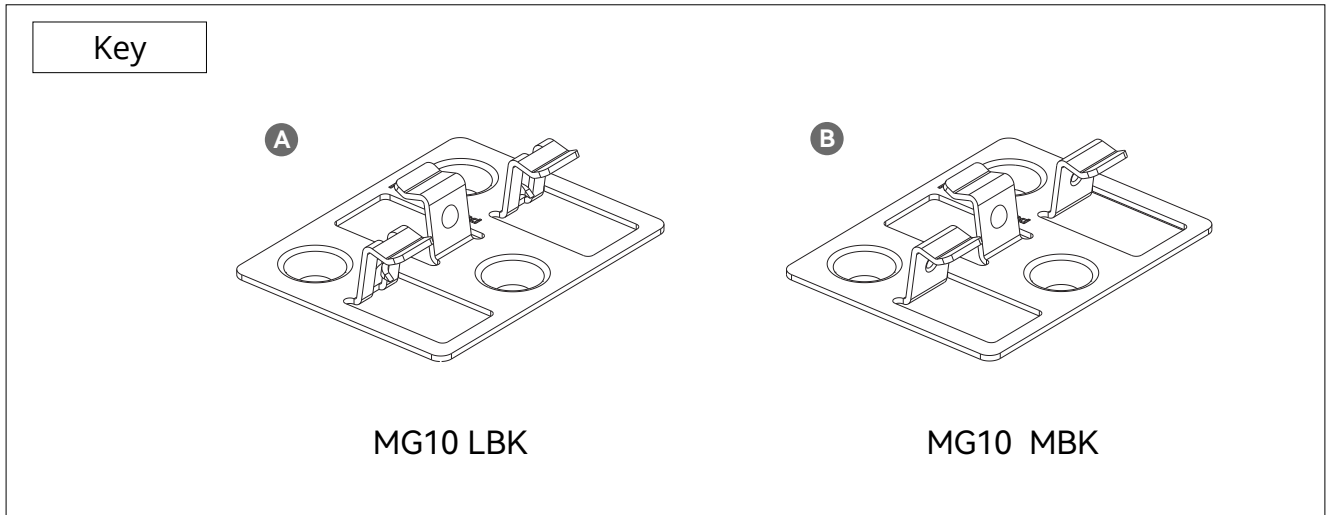


LOCKING THE DECKING BOARDS FOR CONTRACTION AND EXPANSION

- Depending on the lengths of the decking board, the MG10 MBK and MG10 LBK clips are placed in a specific location. The below diagrams show where each clip sits.

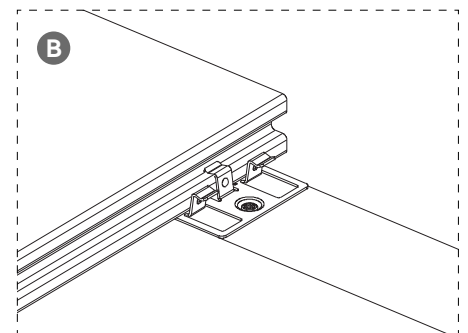
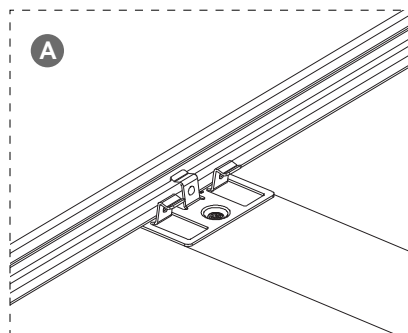
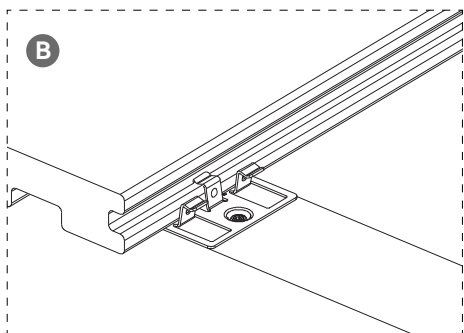
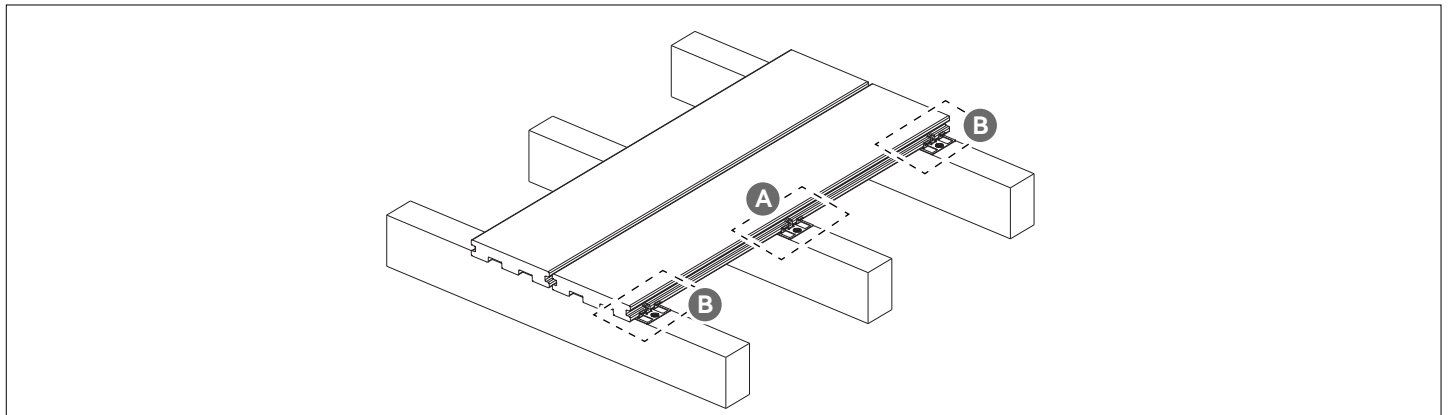
Note:

- Make sure each clip sits on its own, individual joist.
- When 2 board ends meet, always use a sister joist – each board must sit on its own joist.



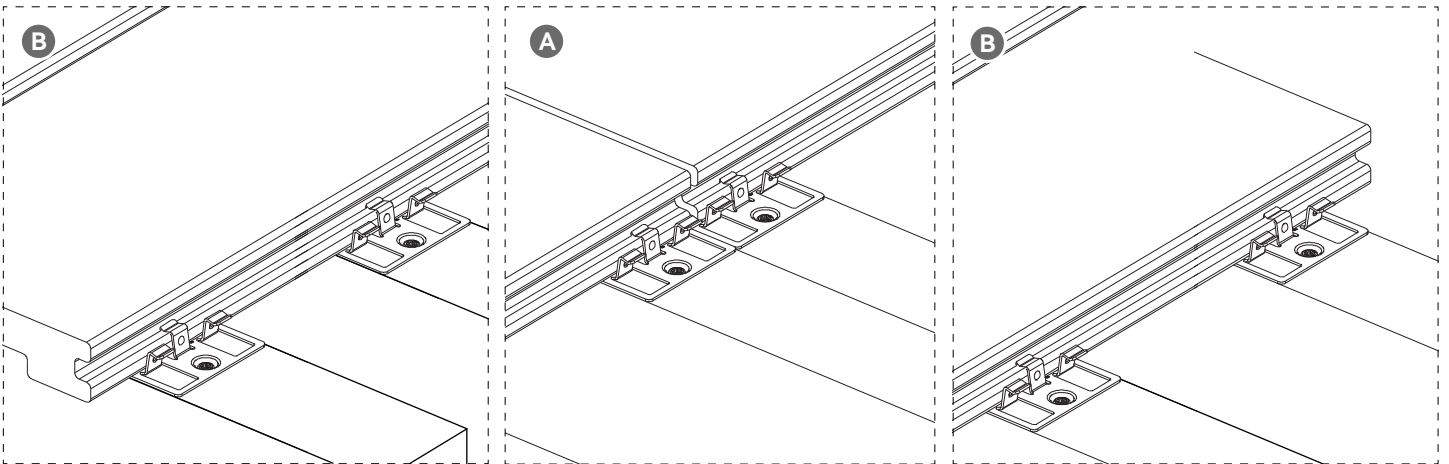
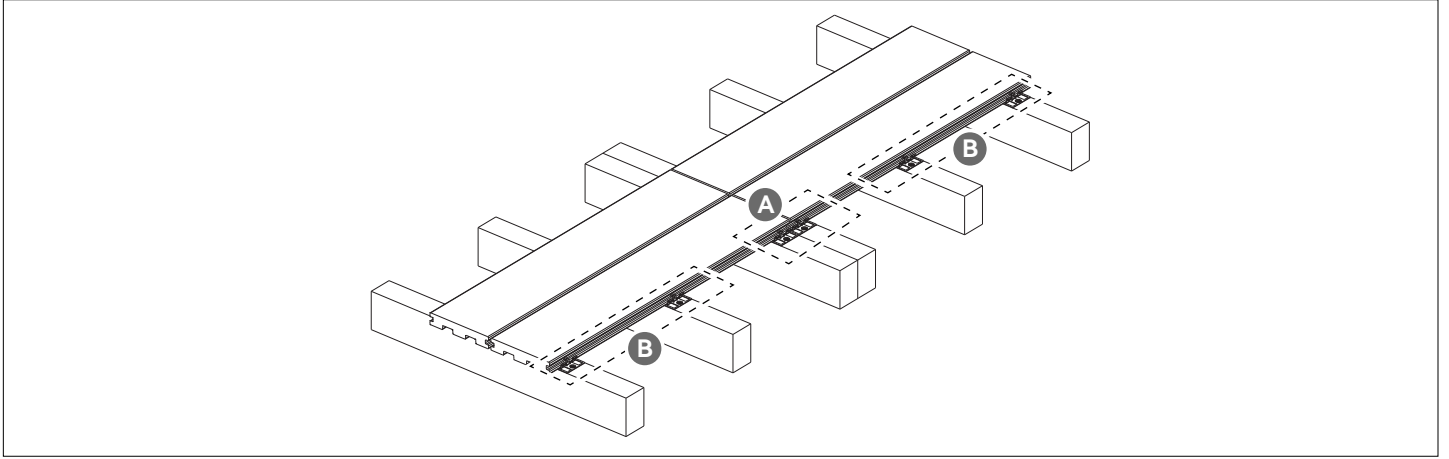
One Length

- MG10 LBK **A** is used to lock the decking board in place; it is used in the middle of the board.
- MG10 MBK **B** is used to manage the expansion and contraction of the decking board; it is used at each end of the board.
- The below diagrams show where each clip sits.



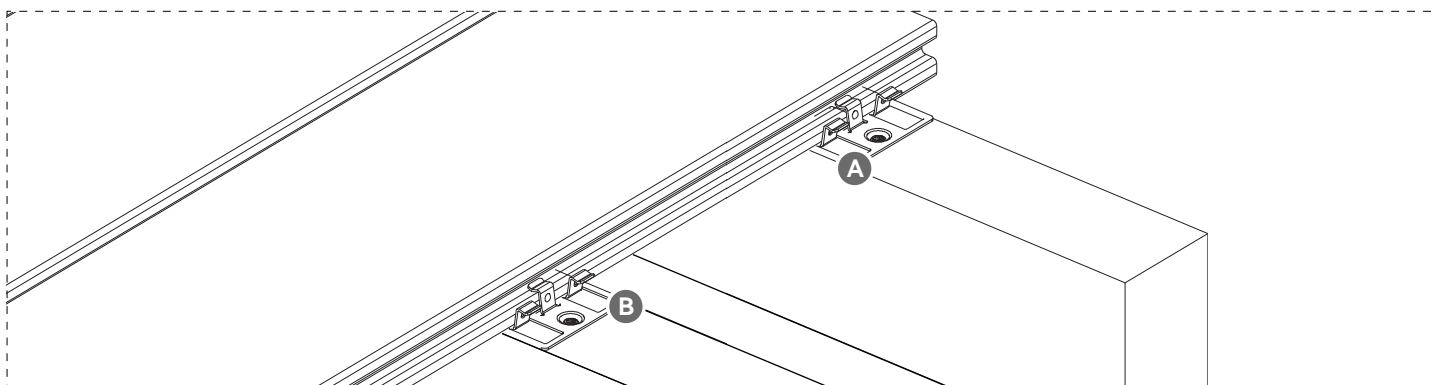
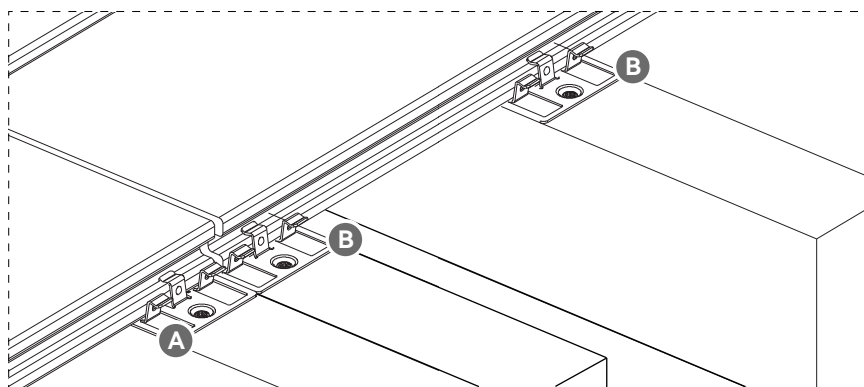
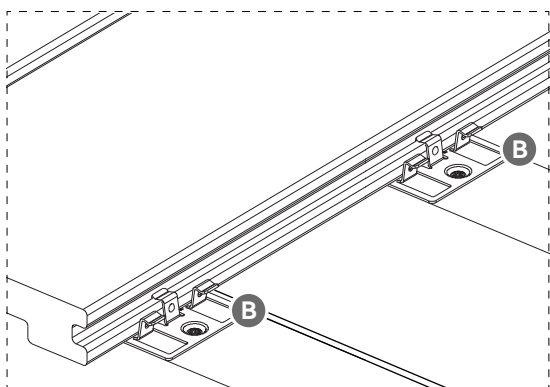
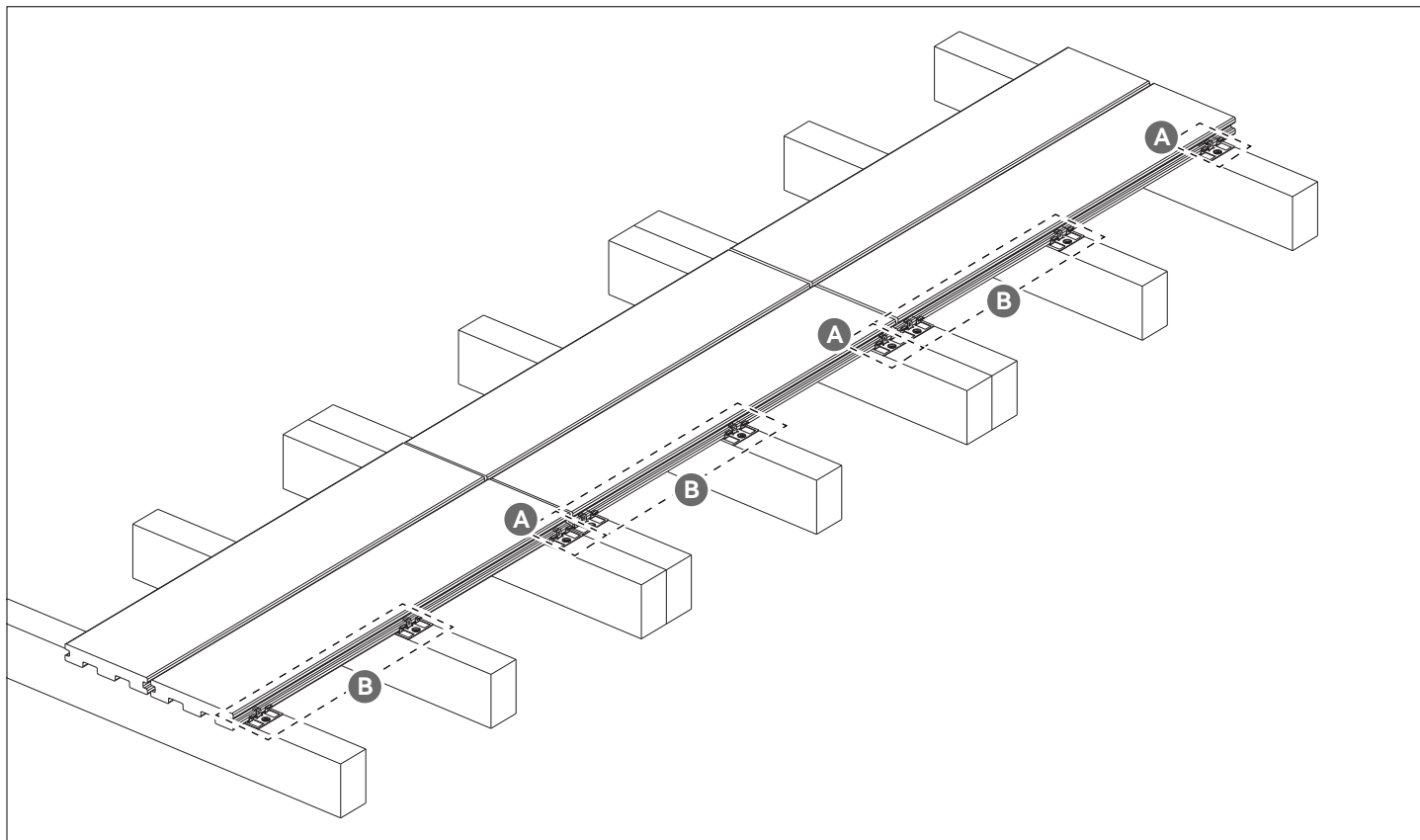
Two Lengths

- MG10 LBK **A** is used to lock the decking board in place; it is used where two board ends meet.
- MG10 MBK **B** is used to manage the expansion and contraction of the decking board. For two board lengths, it is used at the ends and in the middle.
- The diagrams below show where each clip sits.



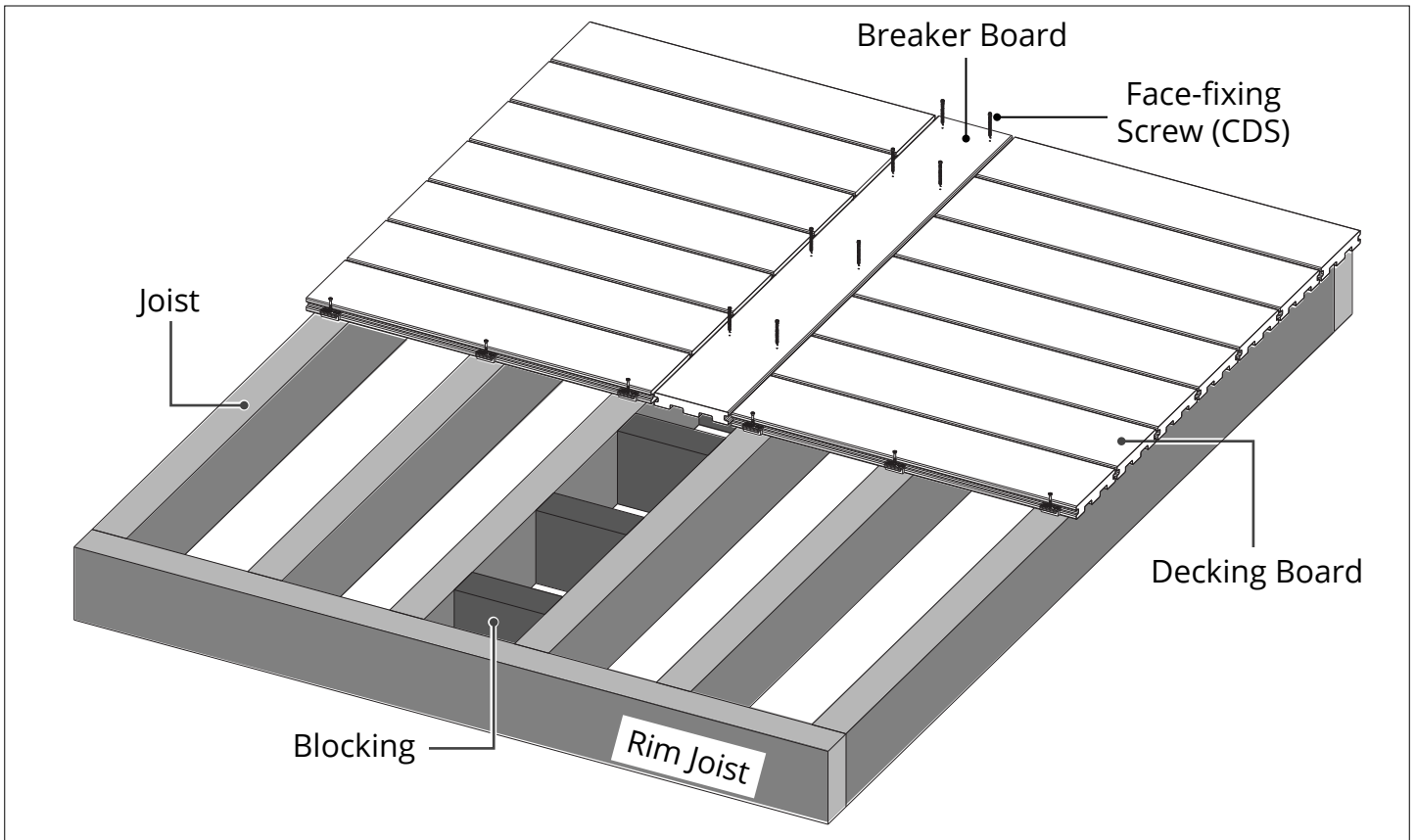
Three (3+) Lengths

- MG10 LBK **A** is used to lock the decking board in place; it is used where two board ends meet and at the end of the board.
- MG10 MBK **B** is used to manage the expansion and contraction of the decking board. For three board lengths, it is used at the beginning and in the middle of the board.
- The diagrams below show where each clip sits.

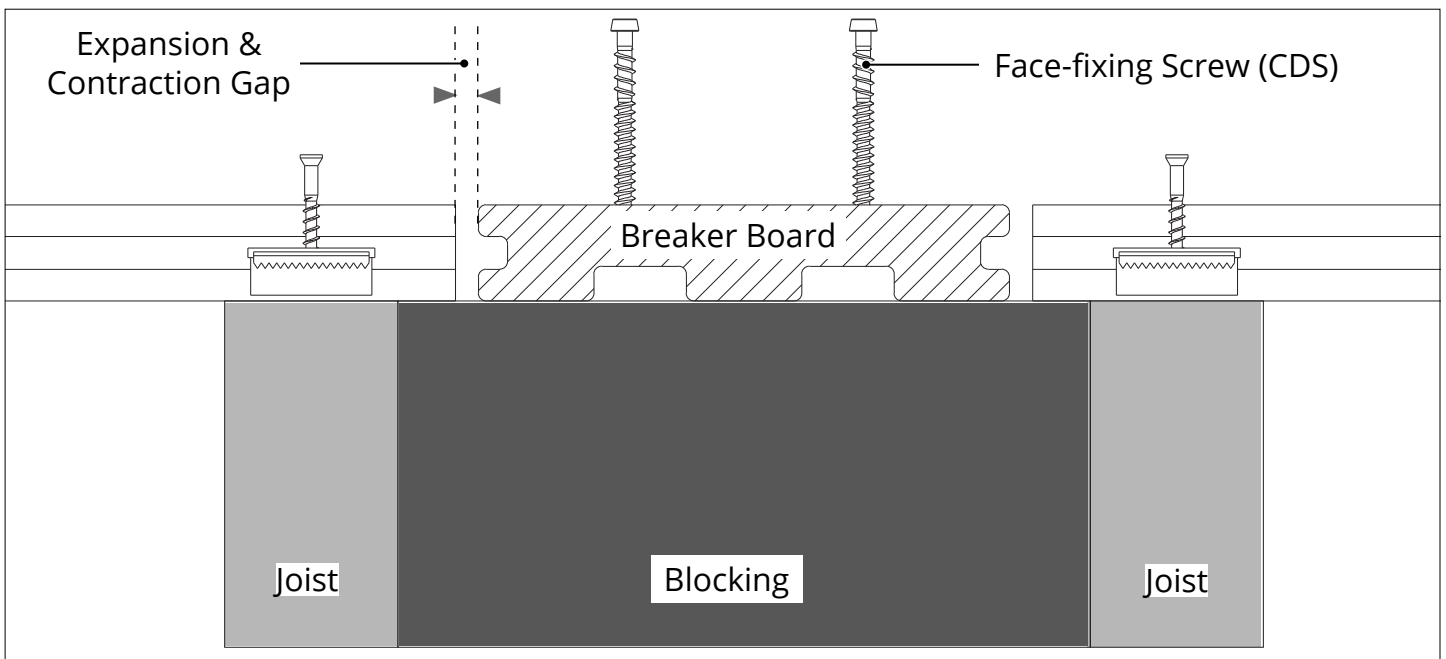


BREAKER BOARD INSTALLATION

- It is recommended to use breaker boards when there is more than one butt joint.
- The below diagram shows a ladder joist structure where the frame is perpendicular to the boards that.

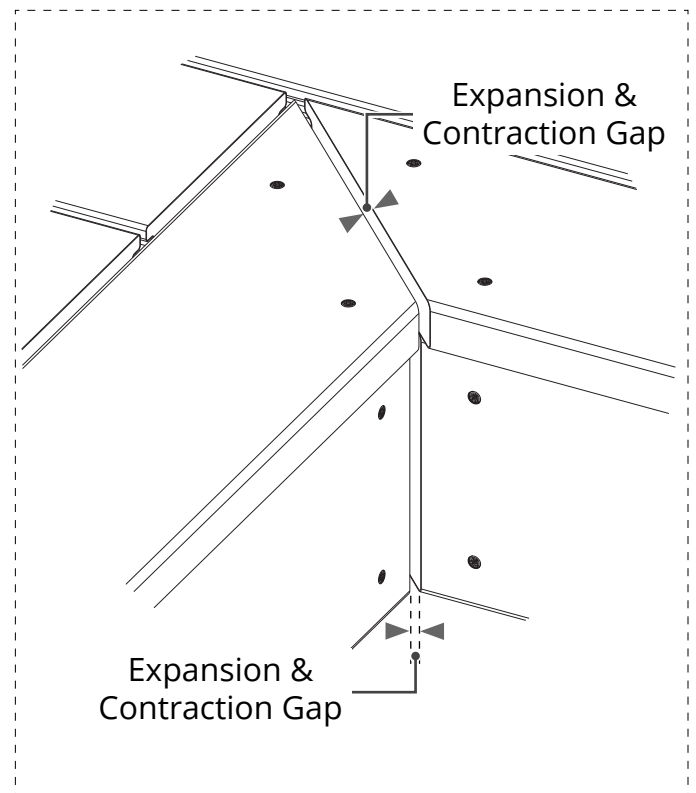
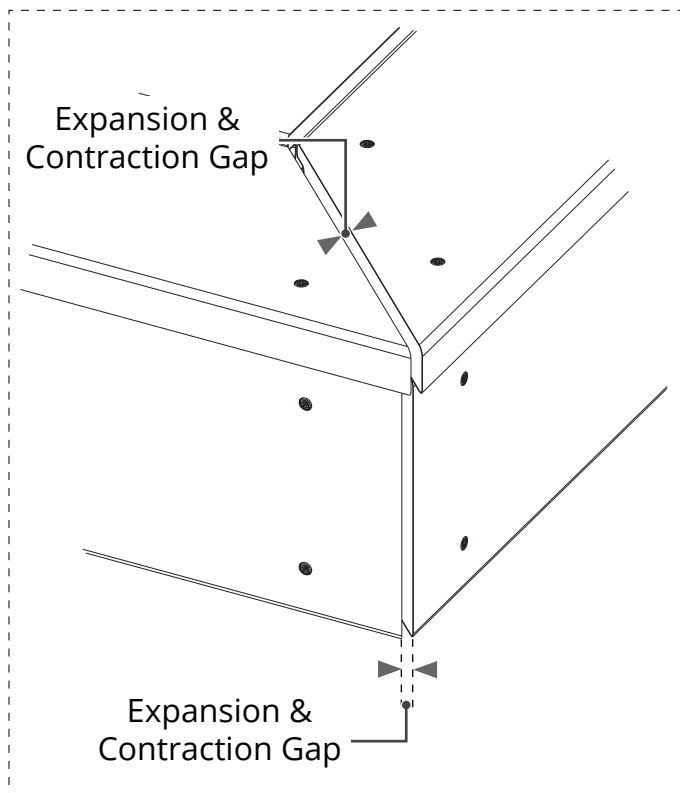
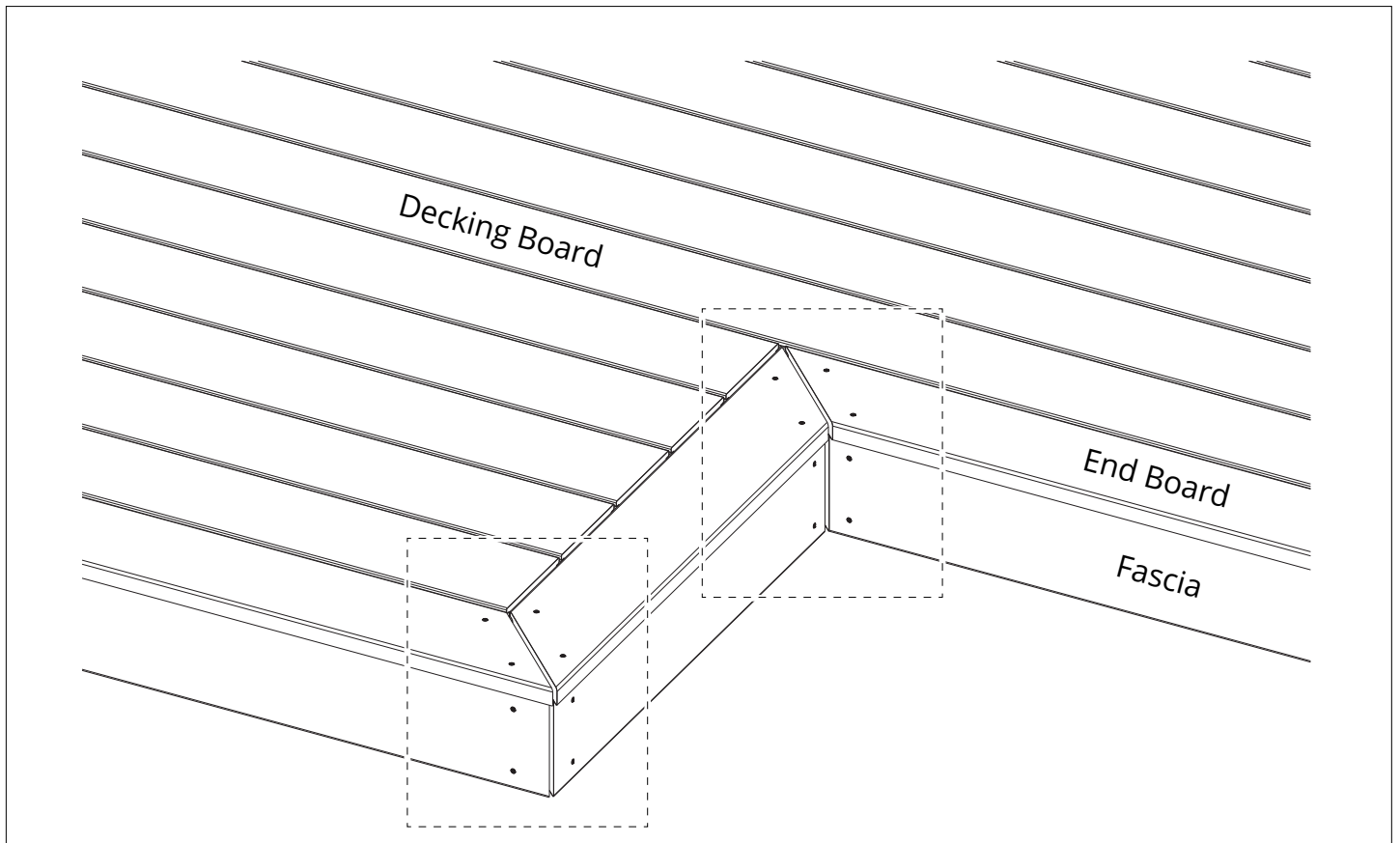


- Face-fix the breaker board to the blocking using face-fixing screws.
- Make sure a gap is left on either side of the breaker board to allow for expansion and contraction.



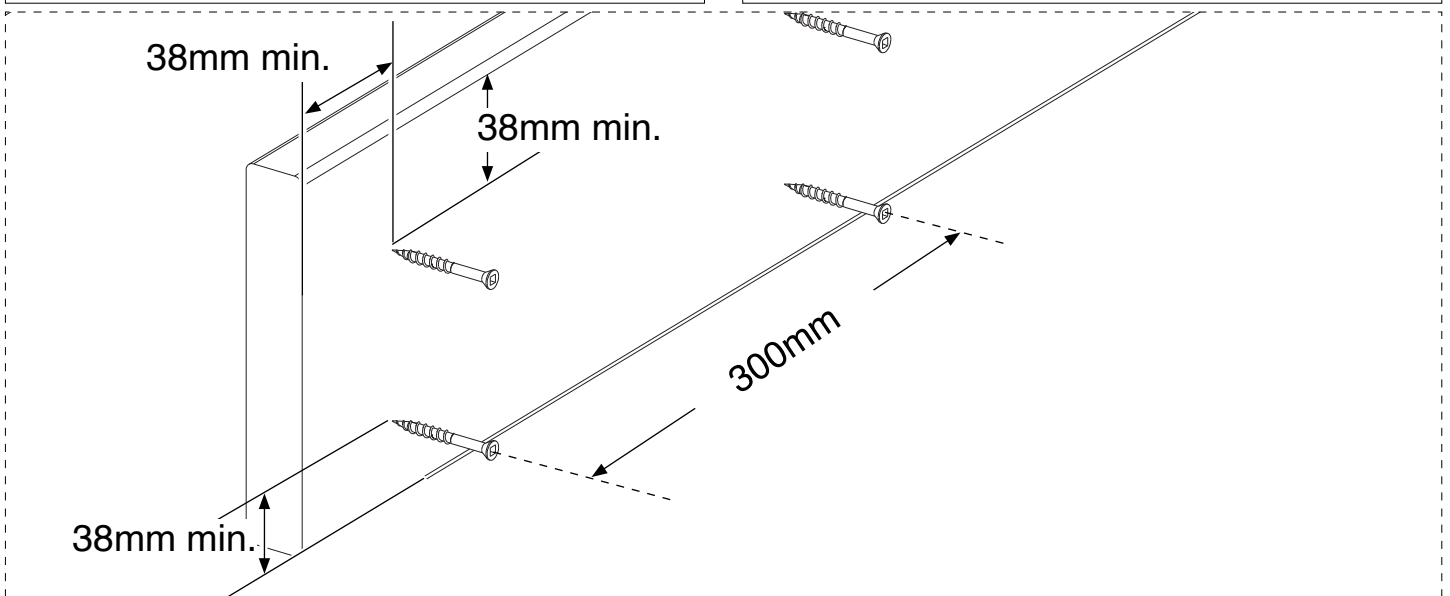
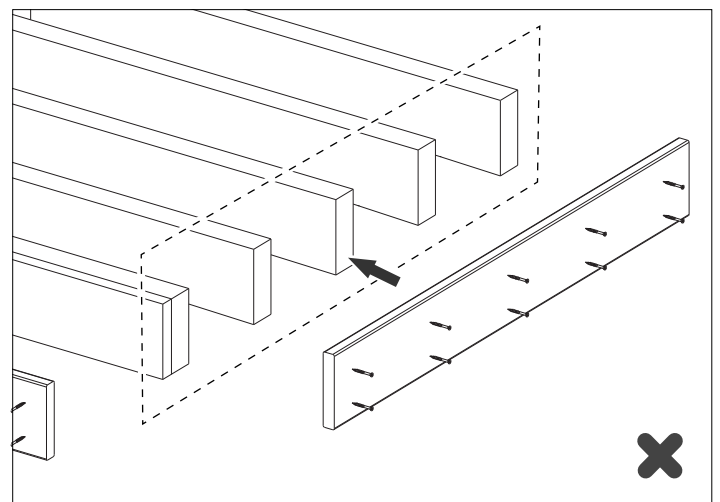
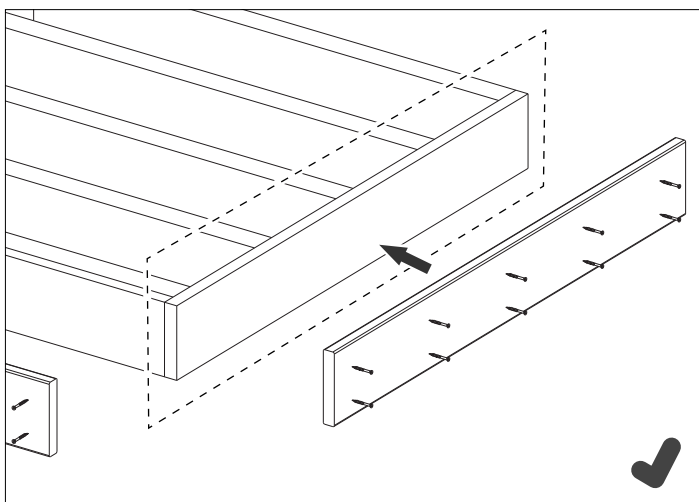
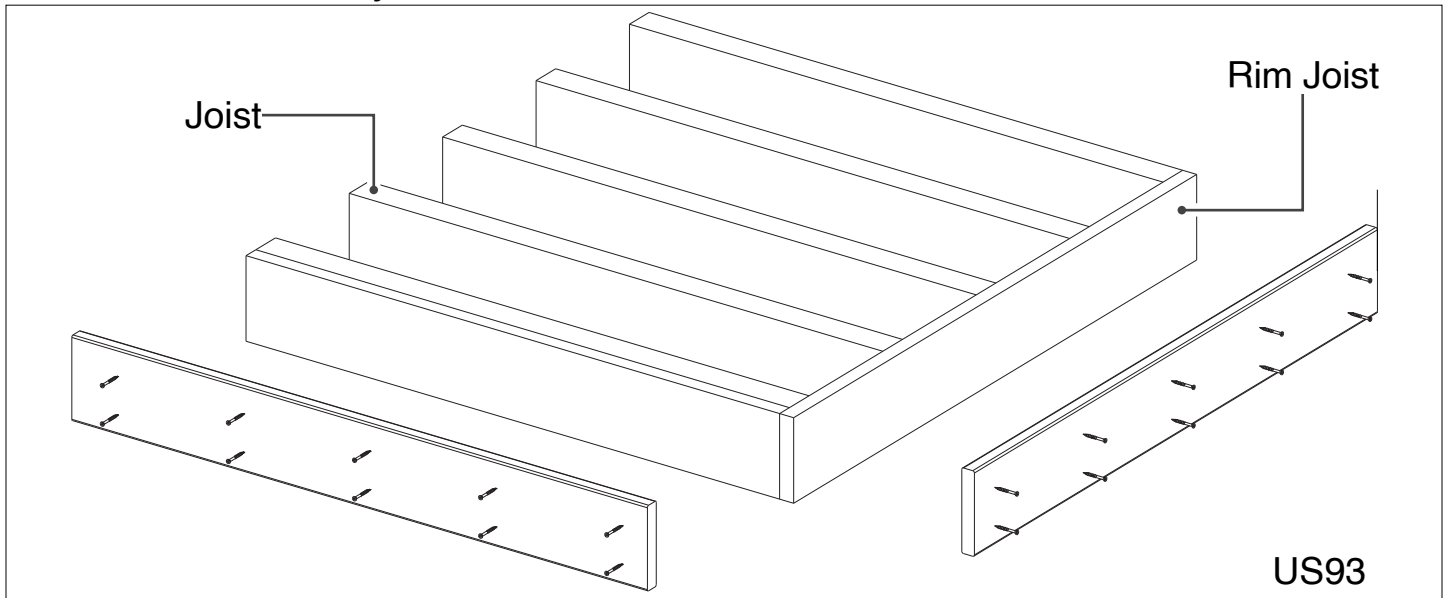
CORNER AND MITRING DETAIL

- When installing the mitring, make sure a gap is left between boards to allow for expansion and contraction.



FASCIA INSTALLATION

- Always install the fascia onto a rim joist. Never install the fascia directly on the joists. Never install the fascia directly on the decking.
- Always pre-drill the holes for the fascia. Make sure the holes are slightly larger than the screws or routed to allow for expansion and contraction. If fixing larger holes, use washers.
- When face-fixing the fascia, always fasten the screw at a 90° angle to the fascia.
- All face-fixing screws must be at least 38mm × 38mm from the ends and the width of the board.
- Remember to securely fix the fascia at the end or in the middle.



STAIR TREAD INSTALLATION OPTIONS

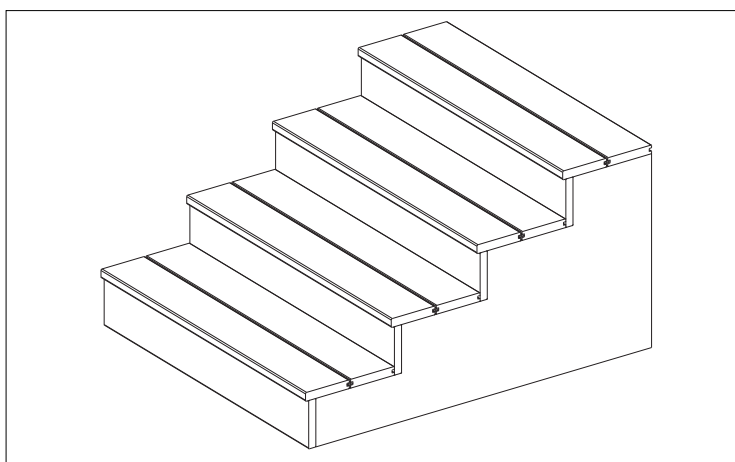
- Review the table of maximum spacing from centre to centre for the stair tread chosen.
- Make sure the stair treads meet the requirements of your national and local building codes. Consult your local municipality for specific requirements.
- Always install stair treads using only solid profiles. Using any type of hollow board for stair treads are out of scope of the warranty.
- Stair tread overhang must never exceed 15mm.
- Always use a minimum of 4 stringers.
- Always pre-drill screw holes slightly larger than the screw.
- All face-fixing screws must be stainless steel and must be at least 38mm from the ends and width of the board.

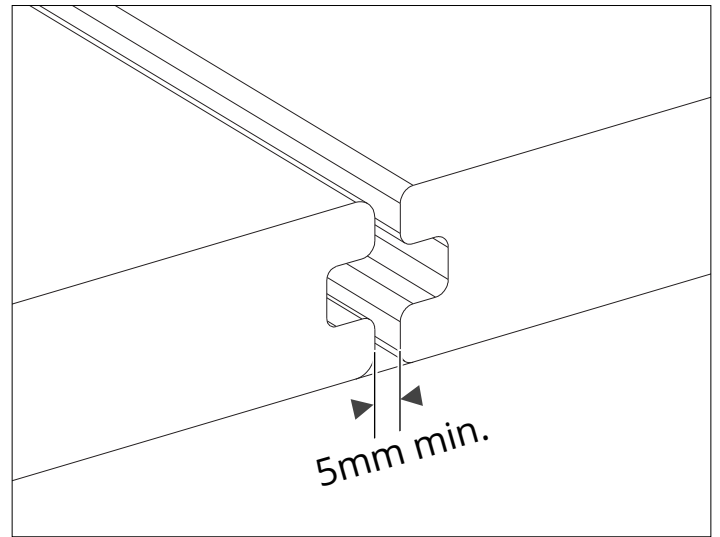
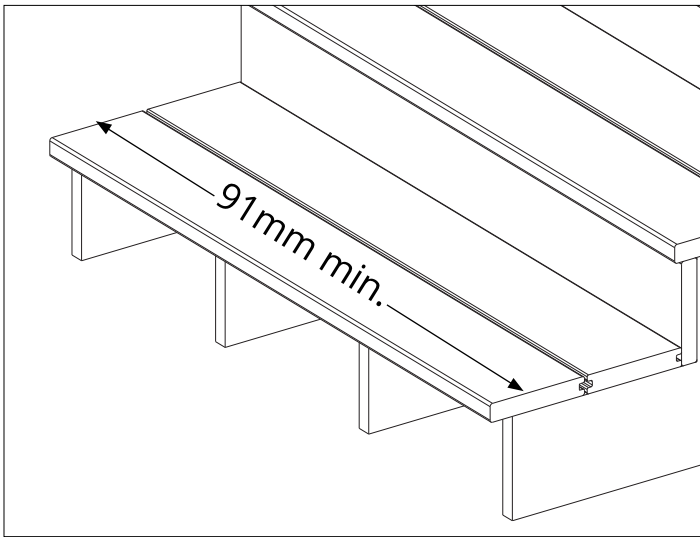
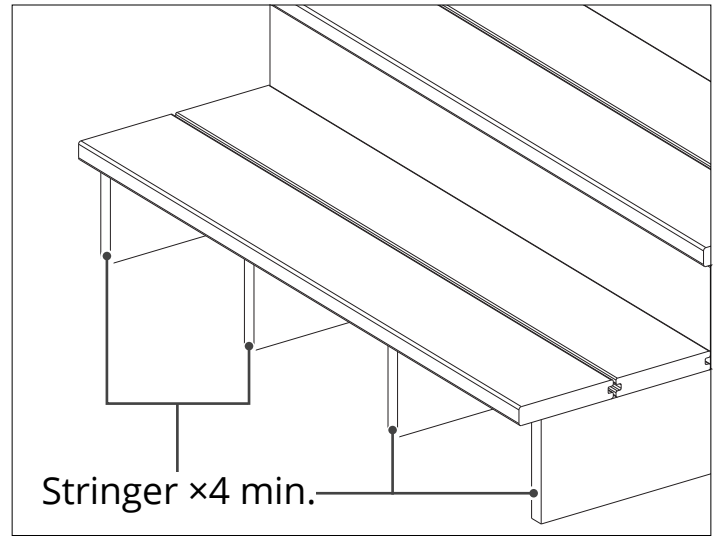
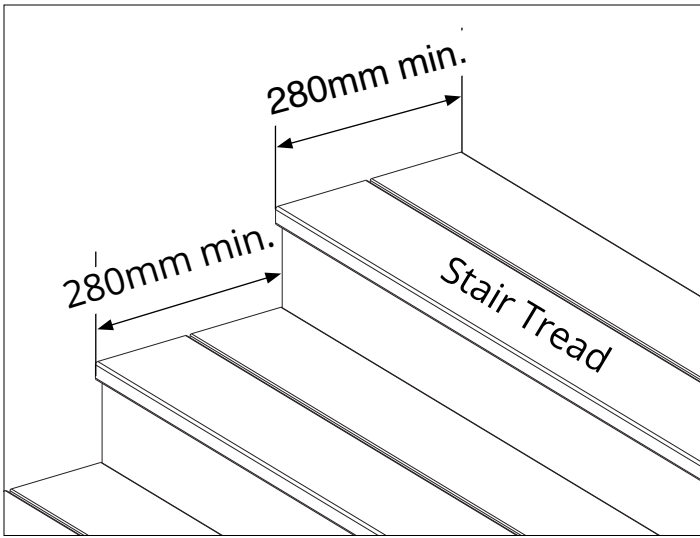
Table: Maximum Spacing Centre-to-Centre on Stair Stringers

Profile	Dimensions	Spacing
US92	138mm × 29mm	305mm
US93	138mm × 29mm	305mm

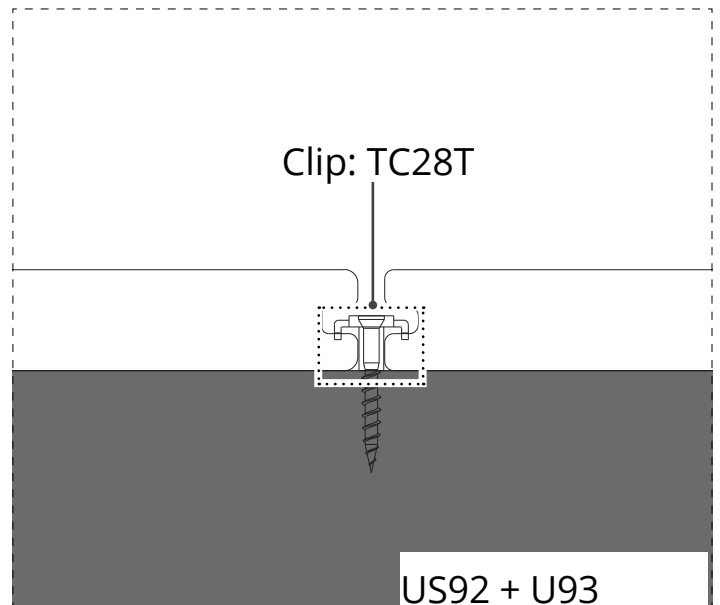
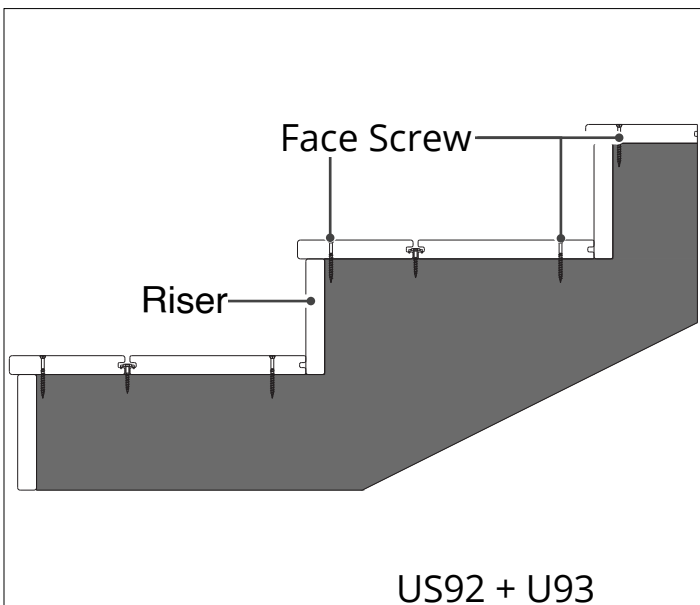
CAUTION

Balustrades, handrails, and the like must **never** be directly fixed to the decking board.





The diagrams below show a completed staircase from the side for a better idea of what the finished installation looks like:




The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every receipt, invoice, and bill should be properly filed and indexed for easy retrieval. This not only helps in tracking expenses but also ensures compliance with tax regulations.

Next, the document outlines the various methods used to collect and analyze data. It mentions the use of surveys, interviews, and focus groups to gather qualitative information. Additionally, it highlights the importance of using statistical tools to analyze quantitative data, such as regression analysis and correlation coefficients.

The document also addresses the challenges of data collection and analysis. It notes that incomplete or biased data can lead to incorrect conclusions. Therefore, it stresses the need for transparency and honesty in reporting results. It also suggests ways to improve data quality, such as using standardized forms and conducting pilot tests.

In conclusion, the document provides a comprehensive overview of the research process, from data collection to analysis and reporting. It serves as a valuable resource for anyone looking to improve their research skills and produce more reliable results.



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