

# TimberTech®



**INSTALLATION GUIDE**  
VERSION 1.3 | SEPTEMBER 2024

**PSP** MATERIALS  
PRODUCTS  
SOLUTIONS



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# 1.0 GENERAL INFORMATION

## 1.1 Introduction

TimberTech decking is designed to mimic the look of real wood without the splinters.

The TimberTech Decking Types and Collections supplied by PSP include:

### TimberTech Composite

85% recycled HDPE (incl. household plastic waste material) and reclaimed wood fibres.

- Edge Prime+
- Terrain

### TimberTech Advanced PVC

60% recycled polymers (incl. post-construction PVC waste material) with no wood fibres.

- Harvest
- Landmark
- Vintage

Choose from a selection of colours and texture finishes to suit your application. Each decking type is supplied with proprietary fixings.

### TimberTech Decking Product Selection

DECKING TYPE	TimberTech Composite		TimberTech Advanced PVC		
COLLECTION	Edge Prime+	Terrain	Harvest	Landmark	Vintage
COMPOSITION Core material of boards	Made of high-performance polymers, 85% of which are recycled products and wood fibres.		Made entirely from high-performance polymers, 60% of which are from recycled products.		
SIZE AND PROFILE All lengths: 4.8m or 6m	136 x 24mm Square/Grooved   Scalloped	136 x 24mm Square/Grooved   Scalloped	184 x 25mm Square   Solid	140 x 25mm Square   Solid	140/184 x 25 Square   Solid
SLIP RESISTENCE	SRV 24	SRV 52	SRV 42	Not Assessed	SRV 53
FIXING OPTIONS *only compatible with Edge Prime+ boards	TOPLoc face-fix screws, CONCEALoc or EDGELoc* hidden fixing systems.		Cortex face-fix screws with material-matched plug.		
POLYMER CAP Timber protection from moisture-related effects.	On 3 sides (underside has no polymer cap)	All 4 sides have a polymer cap	Not applicable since there are no timber fibres present in Advanced PVC boards.		
BORDER BOARDS First/Last Board + Fixing	Square-shoulder   Scalloped profile. Face-fix with TOPLoc screws.		Square-shoulder   Solid profile. Face-fix with Cortex screws.		

## 1.2 Important Documents

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

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

## 1.3 Controlled Documents

All documents are controlled. It is important to ensure that the current documents are always used. For documents, refer to [www.psp.co.nz](http://www.psp.co.nz).

# 2.0 DESIGN

## 2.1 Building Consent Application

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

- This Installation Guide
- The BPIR Declaration



## 2.2 Specification

### Substructure Framing

Ensure that the timber framing has the equivalent stiffness to the framing provisions specified in NZS 3604:2011. Joists must be installed at max 400mm centres (or 300mm when diagonally fixed or used in commercial settings). The deck framing must be founded on a structure that complies with the New Zealand Building Code (NZBC).

For Advanced PVC decks, DO NOT attach to a floating substructure that is not mechanically fastened sufficiently to the building or roof deck.

### Stairs and Ramps

Where TimberTech decking is to be used in the construction of ramps or steps, PSP recommends that the design follows Sections 3 & 4 of [D1/AS1](#).

### TimberTech Installation

The installation of TimberTech and its proprietary fixings varies based on product selection. Install the chosen decking system in accordance with this installation guide.

## 2.3 Product Substitution

TimberTech decking products can be used as a substitute for timber decking or other consented products provided that:

- The supporting framing has joists at max 400mm centres (or 300mm when diagonally fixed or used in commercial settings),
- TimberTech fixings are used, and
- Gaps and allowances are in accordance with this installation guide.

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

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

## 3.0 PLAN THE LAYOUT

### TimberTech 3D Deck Designer

[timbertech.com/design/deck-designer/](http://timbertech.com/design/deck-designer/)

Design your deck layout using TimberTech's interactive online resource to explore colours, board widths, orientations, and accessories.

Planning the layout at the beginning of the project will ensure that the final arrangement and installation the TimberTech deck will create the desired appearance.

Consider the board layout and deck size to determine the amount of material required. When determining the length, ensure the boards span at least three joists.

*Note: The builder/installer must ensure that joists and blocking are at the required spacings.*

## 3.1 Choose your TimberTech

### TimberTech Composite\*



*\*Available in a square shoulder scalloped profile for the boards bordering the deck (first/last board).*

### TimberTech Advanced PVC



## 3.2 Decking Considerations

### 1. COLOUR AND GRAIN

TimberTech decking is designed to mimic the look of real wood. TimberTech has a range of Collections with various colour and grain effects.

A difference in colour may occur when installing boards at different angles. Plan the layout first to ensure desired outcome in terms of colour appearance and grain effects.

### 2. PREPARE THE BOARDS

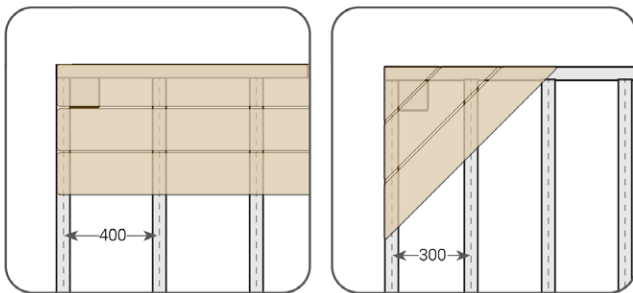
Always cut the factory ends of the boards to ensure they are square.

*Note: Avoid cutting and dragging ends of boards over each other as unwanted marks on the deck surface could occur.*

### 3. JOIST CENTRES

TimberTech decking products can be used as a substitute for timber decking or other consented products provided that:

- The supporting framing has joists at max 400mm centres (or 300mm when diagonally fixed or used in commercial settings),
- TimberTech fixings are used, and
- Gaps and allowances are in accordance with this installation guide.



BASIC INSTALLATION

DIAGONAL INSTALLATION

### 4. CONSTRUCTION WASTE

Construction waste such as dirt, sand, and dust can cause permanent damage to the boards. DO NOT use TimberTech decking as a work surface. Install deck after all other construction (cladding, roofing, painting, etc.) is completed.

### 5. HEAT WARNING

Exposing TimberTech decking to excessive heat could result in board expansion/contraction, discoloration, and an accelerated weathering effect. In extreme situations, the boards may sag, warp, and even melt.



*Caution: Avoid exposure to uncontrolled fire pits and other portable fire sources.*

### 6. LOW-E GLASS

In areas where Low-Emissivity (Low-E) glass reflects sunlight on your deck, there may be an excessive accumulation of heat. For decking exposed to heat build-up, PSP recommends using additional framing, tighter joist spacing (150 - 200mm), and face-fix fastening of boards.

### 7. COLOUR AND HEAT

TimberTech decking tends to remain cooler compared to alternative materials of the same colour. However, it's important to note that regardless of the decking material, darker colours tend to feel hotter. Take care when handling and using products.

### 8. EXPANSION / CONTRACTION

Variations in temperature can lead TimberTech decking boards to undergo expansion and contraction, similar to how timber material responds to changes in moisture levels.

For best results, keep decking as cool as possible during attachment. Full direct sun exposure will increase board temperature and length. If attaching during high heat, larger gapping can be expected. See [Section 5.2 Butt Joints in Decking](#).

DO NOT cut and leave boards unattached for long periods of time or overnight, as the board length will change with temperature changes.

*Tip: Measure twice, cut once. As soon as the board has been cut, install. Follow all fixing instructions to limit expansion, contraction, and gapping.*

### 3.3 Choose Compatible Fixings

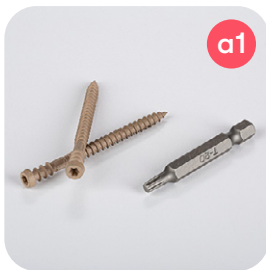
TimberTech Composite	
a	TOPLoc Screw (colour-matched)
b	EDGELoc Hidden Fastener*
c	CONCEALoc Hidden Fastener

TimberTech Advanced PVC	
d	Cortex Screw (incl. material-matched plug)

#### a. TOPLoc Screws

TOPLoc colour-matched screws are a full deck fixing option. There are two types of screws:

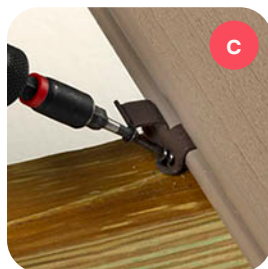
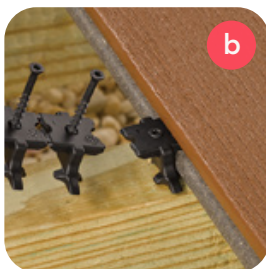
1. TOPLoc Face-Fix Deck Fasteners
2. TOPLoc Fascia Screw



Available in carbon steel or 305 stainless steel.

#### b/c. EDGELoc\* / CONCEALoc Fasteners

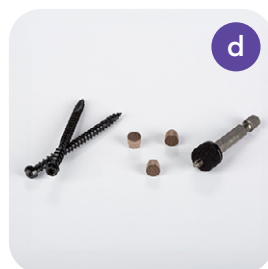
Hidden Fastener systems are compatible with TimberTech Composite grooved-profile boards.



Available with 305 stainless steel screws only.  
\*only compatible with Edge Prime+ boards

#### d. Cortex Screws

TimberTech Advanced PVC decking is installed using Cortex Screws and 'hidden' plugs. The plug strips match the colour and grain of the board.



Available in carbon steel or 305 stainless steel.

## 4.0 PREPARATION

### 4.1 Safety and Tools

#### Keep Safe

Follow simple health and safety practices:

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

For further information, refer to resources at [www.worksafe.govt.nz](http://www.worksafe.govt.nz):

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

#### Skills and Tools

Standard DIYer skills and carpentry tools are required to install TimberTech decking. The following tools may help to simplify installation:

- Safety Glasses
- Drill + Speed Drill Bits
- Cordless Driver
- Carpenter Square
- Circular Saw
- Jigsaw
- Spacing Tools
- Tape Measure

### Additional Products

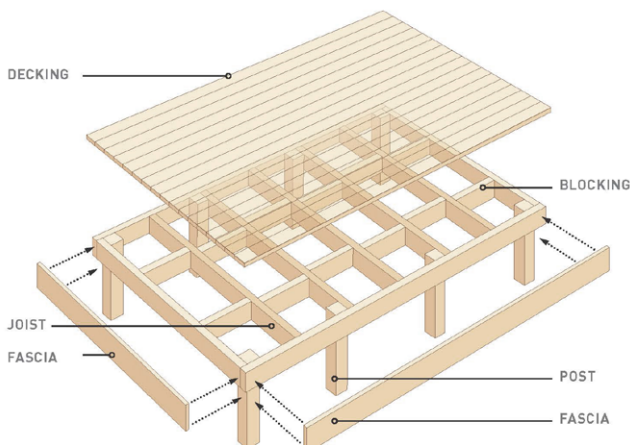
To install TimberTech decking, the following products may be required:

- **PRO-TAC FLASHING AND JOIST TAPE** - To protect the decking substructure from moisture damage and rot.
- **DECKMATE SPACING TOOL** - To achieve consistent spacing between the deck board.
- **TOPLOC FASCIA BIT** - To overdrive and countersink the TopLoc Fascia Screw hole.
- **CONCEALOC GROOVE CUTTING ROUTER** - To cut the exact groove into a solid-shoulder profile for a precise Hidden Fastener fit.

## 4.2 Handling and Storage

- \* Take care when transporting, handling, and storing TimberTech to prevent damage.
- \* Unload by hand and store in a dry, well-ventilated space out of direct sunlight or other heat sources.
- \* The boards must be stacked flat, at least 150mm off the ground, and covered to avoid becoming wet prior to installation. Leave wrapped in the factory-applied protective wrapping and if stored outside cover with a non-translucent material.
- \* Do not store bundles over 8 units high.

## 4.3 Prepare Substructure



The construction of the framing will directly influence the look, feel, and performance of the TimberTech decking. It is important to spend the time making sure that the framing is free from damages and level without any protrusions.

### 1. Check the Foundation

Ensure that the foundation to which the framing is attached is adequate for the intended use of the deck. It should be able to resist all lateral and applied loads and should not sink or move sideways.

*Tip: PSP recommends seeking advice from a professional to assess and ensure your deck foundation and framing is structurally sound.*

### 2. Confirm the Framing is Level

▶ WATCH: [www.timbertech.com/resources/deck-building/deck-joist-spacing](http://www.timbertech.com/resources/deck-building/deck-joist-spacing).

- \* Ensure the frame is securely fixed to the foundation system with a minimum ground clearance of 40mm to allow for airflow.
- \* Check that all necessary fixings show no signs of corrosion, and are not protruding.
- \* Assess that there is no evidence of rot or other decay in the framing.
- \* In new and existing framing, run a string line along the framing to ensure that the joists are even and in plane across the top.

*Tip: PSP recommends using stainless steel screws instead of nails for a more robust fixing method.*

### 3. Check Joist Spacing

For a diagonal layout of TimberTech boards or where used in a commercial setting, joists should be spaced at 300mm centres. For all other layouts, use 400mm centres (standard).

*Tip: Protect the timber joists from moisture damage by installing [TimberTech's Pro Tac Tape](#) along the top of all joists before laying your deck.*



#### 4. Install Blocking

The installation of blocking between the joists ensures the framing elements are all in plane with each other. This reduces excessive gaps between the boards and ensures a more uniform appearance of the TimberTech deck.



*Note: Extra blocking or the addition of a sister joist may be required for where butt joints are located. See [Section 5.2 Butt Joints in Decking](#).*

#### 4.4 Cut TimberTech Decking

TimberTech Composite and Advanced PVC products require care when cutting and fixing. It is important to follow the instructions to ensure the products are not chipped or damaged.

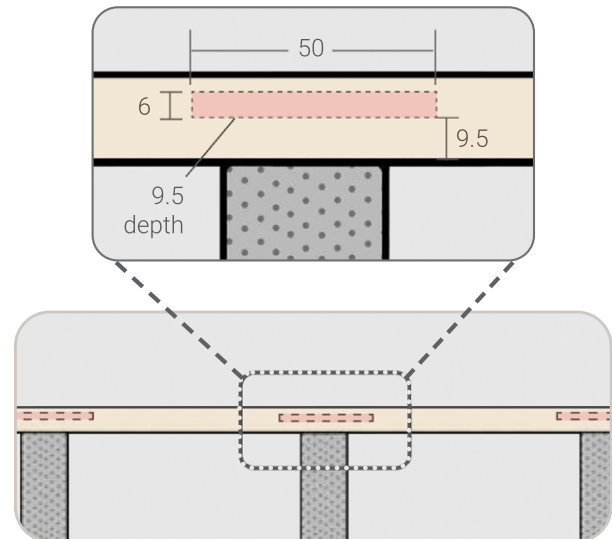
*Tip: Measure twice, cut once. Limit changes in length due to expansion/contraction by cutting and fitting boards at the same time.*

- All TimberTech products should be cut with a skill or circular saw set at a low, consistent speed. Changes in speed or high speed may cause chipping on the edge.
- When ripping a board (reducing its width), cut one board at a time, with the grain side up.  
*Tip: Protect the TimberTech surface using masking tape to prevent skill saw scuffs.*

##### **Border Boards (First/Last) - Cut Groove Slots**

TimberTech Composite decks require a solid-shoulder profile for the boards bordering the deck. Where a hidden fastener system is used, slots must be routed along the edge of the solid-shoulder profile at every joist location. The [CONCEALoc Groove Cutting Router Bit](#) assists in creating the exact groove slot size (see diagram).

*Note: DO NOT groove the full length of the board.*



*Tip: Face-fix the outer edge of each bordering board in place, then move around the perimeter of the deck, routing slots at every joist location.*

## 5.0 INSTALLATION

### 5.1 Install the Border Boards



#### **ALL FIRST/LAST BOARDS MUST BE FACE-FIXED.**

Position the first board and fix the outer edge of the board at each framing support.

- For Composite decks, use TopLoc Screws.
- For Advanced PVC decks, use Cortex Screws.

*Tip: Choose to start laying from the front of the deck and finish with off-sized boards in the back where they are less visible.*

## 5.2 Butt Joints in Decking

The installation of butt joints reduces the risk of movement over the length of the boards.

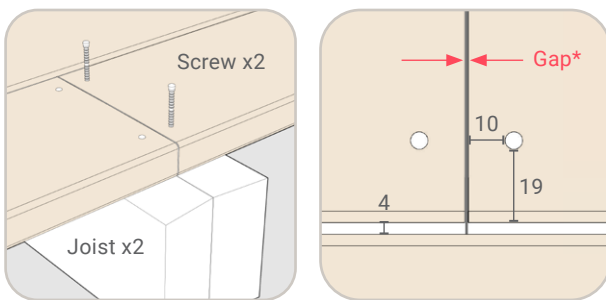
For Composite decks, face-fix the boards with TopLoc Screws or use the CONCEALoc Hidden

- ▶ Fastener for a [fastener-free finish of the butt joint](#). For Advanced PVC, face-fix using Cortex Screws.

*Note: Where face-fixed screws are used, ensure butt-jointed boards have 2 screws at each joint; each 10mm from end, and 19mm from sides.*

When creating a butt joint:

- \* Do not scarf cut butt joints; trim cut factory ends to ensure squareness.
- \* Follow the specified gapping requirements\*
- \* Always add a sister joist at butt joints.



*BUTT JOINT GAPPING REQUIREMENTS			
Temp during install	0°C	1 - 23°C	> 24°C
<b>Composite</b>	5mm	3mm	1mm
<b>Advanced PVC</b>	2mm	2mm	0mm

## 5.3 Install with Face-fix Screws

- \* Use the [Deckmate Spacing Tool](#) to achieve consistent side to side board spacing and drainage gaps. Deckmate also includes screw hole templates for standard screw spacing.
- \* Drive fasteners perpendicular (90°) to the deck board; straight into the joist. DO NOT drive in at an angle.
- \* Pre-drill screw holes as required, follow all fixing instructions.

### TimberTech Composite

TOPLoc Screw (colour-matched)

[www.timbertech.com/resources/deck-building/timbertech-advanced-pvc-decking-with-toploc/](http://www.timbertech.com/resources/deck-building/timbertech-advanced-pvc-decking-with-toploc/)

Pre-drill screw holes with a 4mm drill bit, then drive TOPLoc Screws flush with boards.

TOPLoc Screws can be chosen as a full deck fixing option. There are two types of screws:

1. TOPLoc Direct Fix Deck Screw
2. TOPLoc Fascia Screw\*



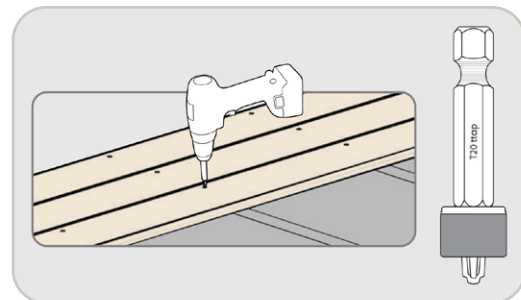
\* TOPLoc Fascia Screw holes should be pre-drilled using the TOPLoc Fascia Drill Bit for a flush finish.

### TimberTech Advanced PVC

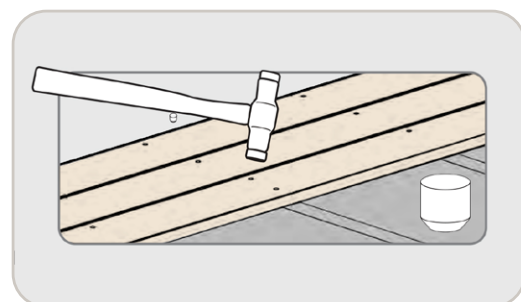
Cortex Screw (incl. material-matched plug)

[www.timbertech.com/resources/deck-building/install-timbertech-advanced-pvc-decking-with-cortex/](http://www.timbertech.com/resources/deck-building/install-timbertech-advanced-pvc-decking-with-cortex/)

Drive in Cortex Screws at a continuous speed using the setting tool provided to ensure the material-matched plug will have a flush finish.



Match the grain of the board and gently tap plug flush into place to ensure the fixing is hidden.



## 5.4 Install with Hidden Fasteners

### TimberTech Composite - Edge Prime+

EDGELoc Hidden Fastener

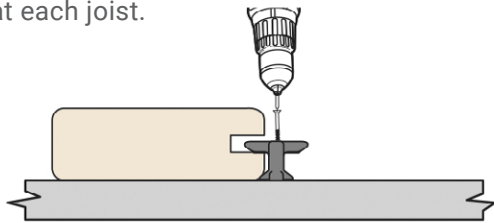
[www.timbertech.com/wp-content/uploads/2022/01/TimberTech-EDGE-Decking-Installation-EDGELoc-Hidden-Fasteners-ENG.pdf/](http://www.timbertech.com/wp-content/uploads/2022/01/TimberTech-EDGE-Decking-Installation-EDGELoc-Hidden-Fasteners-ENG.pdf/)

▶ WATCH: [vimeo.com/666787953](https://vimeo.com/666787953)

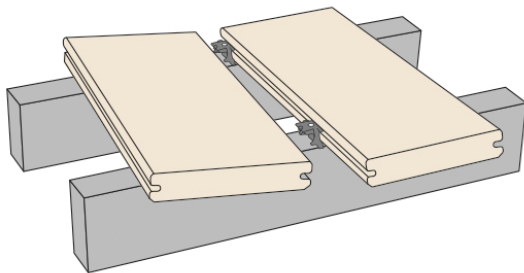
1. Fully insert the EDGELoc fixing into the grooved edge of the board. The fixings must be lined up with the centre, including if the boards are to be installed diagonally.



2. Drive the preset screw at 90° through the fixing and into the joist. Slightly untighten screw to allow movement for ease of fitting the next board. An EDGELoc fixing is required at each joist.



3. Place the next board into position against the fixing. Slightly raise the outer edge of the board being installed and slide it onto the fixing until the board contacts the spacer tab.



4. Gently tap the installed board with a beater board to slide into place. DO NOT USE a hammer as this could damage the board.
5. Once your boards are fitted, go back and retighten screws at each fixing location.

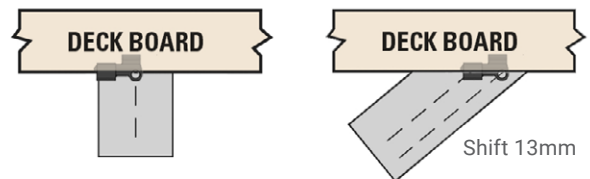
Note: EDGELoc fasteners are self-spacing.

### TimberTech Composite

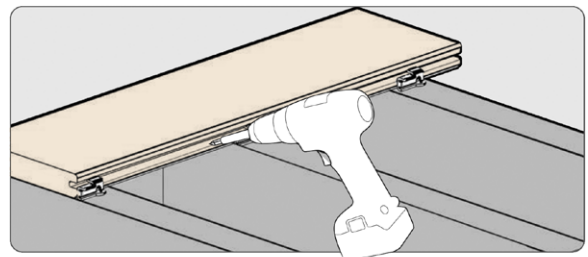
CONCEALoc Hidden Fastener

[www.timbertech.com/resources/deck-building/timbertech-pro-edge-decking-with-concealoc/](http://www.timbertech.com/resources/deck-building/timbertech-pro-edge-decking-with-concealoc/)

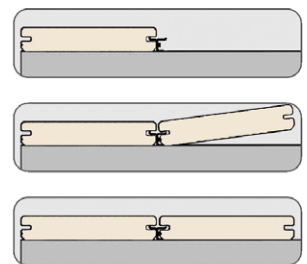
1. Fully insert the CONCEALoc fixing into the grooved edge of the board. The fixings must be lined up with the centre of the joist unless the boards are installed on the diagonal. In this case, the clip must be offset to the right of the centre line of the joist by 13 mm.



2. Drive the preset screw 45°, applying a downward pressure. Screw through the fixing and into the joist. DO NOT OVERTIGHTEN as this will make it difficult to install the next board. A CONCEALoc fixing is required at each joist.



3. Place the next board into position against the fixing. Slightly raise the outer edge of the board being installed and slide it onto the fixing until the board contacts the spacer tab.



4. Gently tap the installed board with a beater board to slide into place. DO NOT USE a hammer as this could damage the board.

Note: CONCEALoc is a self-spacing fastener that can be used as a fixing option at butt-joints. Ensure an extra fastener is installed at each sister joist.

## 5.5 TimberTech Stairs

### Fascia and Risers

If necessary, rip the fascia/riser boards for an exact fit. At either end of the fascia/riser, fix two screws; top to bottom. Then at 300mm centres, fix a single screw alternating between top and bottom.

- For Composite, use TopLoc Fascia Screws.
- For Advanced PVC, use Cortex screws.

▶ WATCH: [Fascia Installation Instructions](#)

*Tip: Drive all TOPLoc Fascia Screws to the proper depth to have a flush finish with the fascia surface.*

### Stair Installation Considerations

In your stair design, please ensure the following:

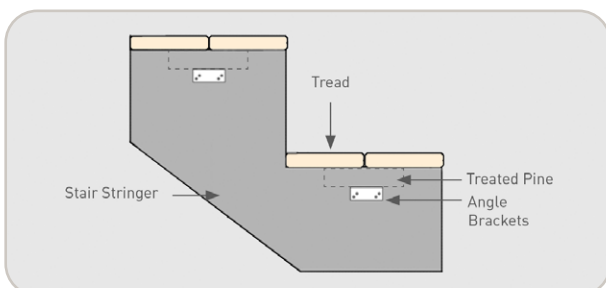
- \* Always include a riser.
- \* The tread has the depth of at least two full boards with a gap of 3-5mm between boards.
- \* Fix the treads at minimum 300mm centres with at least one stringer for support in the middle of the stair span.
- \* Hidden fixing systems must not be used.

*Note: The dimensions of the stairs must meet your local building code and are not prescribed in this guide. You may refer to Section 4 of [D1/AS1](#).*

## Refer to Manufacturer Guide

See TimberTech resources for guidance on Stair Installation (see page 23):

- [TimberTech Composite Installation Guide](#)
- [TimberTech Advanced PVC Installation Guide](#)



## 5.6 Complete the Installation

If a barrier is required, then face-fix to the joists. A barrier must not be face-fixed through the TimberTech decking product.

The barrier must be constructed in accordance with NZS 3604:2011 or in accordance with a proprietary system that complies with the NZBC.

*Note: Where the fall from the deck is to be **greater than 1.0m**, ensure that a barrier is specified.*

## 6.0 CARE AND MAINTENANCE

### Refer to Manufacturer Guide

Care and Maintenance will ensure the ongoing look and performance of your TimberTech deck.

<b>TimberTech Decking</b>
Care & Cleaning Guide
<a href="http://www.timbertech.com/wp-content/uploads/2024/02/TimberTech-Care-Cleaning-Guide.pdf">www.timbertech.com/wp-content/uploads/2024/02/TimberTech-Care-Cleaning-Guide.pdf</a>