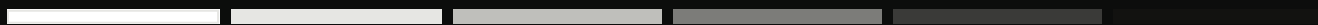


PuraComposite™

Technical Installation Guide

PRODUCT **PuraShield™**



FIXING SYSTEM

PuraFix™ hidden clips

APPLICATION

Decking

READ

In full before use

Important — read before installation

! IMPORTANT

This installation guide must be read in full before any work begins. Failure to follow these instructions will render the warranty null and void.

- 01 All PuraShield™ deck boards are intended for pedestrian use outdoors only. They must not be used for structural applications.
- 02 Prior to installation, boards must be stored flat at the worksite for a minimum of 48 hours to acclimatise.
- 03 Avoid all impact during unloading. Carry boards on their narrow edge for greater rigidity, and store them on a flat, level surface.
- 04 Boards have a lengthwise dimensional tolerance of +3 cm. As some boards may be supplied oversize, their ends should be trimmed to length before installation.
- 05 Offcuts may be disposed of with general construction waste.

— KEY POINTS TO FOLLOW

- **Ensure good ground drainage.** Make sure water cannot collect beneath the boards, and that the structure stays well ventilated.
- **Ensure sufficient substructure height.** The substructure must be raised high enough to allow adequate airflow beneath the entire deck.
- **Respect the centre-to-centre joist spacing.** Maintain the centre-to-centre spacing (30–40 cm) specified for installation perpendicular to the boards, as given in the product data sheet. For commercial or public installations, reduce the spacing by 10 cm. When boards are laid diagonally, reduce the spacing by a further 10 cm.
- **Use a double joist at board joints.** A double joist is required wherever two board ends meet on a timber substructure. On an aluminium substructure, the double joist may be replaced by fixing a board-jointing square.
- **Protect the joists.** Cover timber joists with barrier tape and set them on pads of at least 5 mm thickness.
- **Respect the expansion clearances.** Observe all expansion clearances: between the boards, around the perimeter of the deck, and in particular between each board end (5 mm). Expansion occurs mainly along the length of the boards.
- **Use the correct clip model.** Use only the PuraFix™ clip specified for your board model. Within 3 km of the sea or ocean, we recommend stainless steel A4 – AISI 316 screws. Contact us to order the A4 – AISI 316 screws matched to your PuraFix™ clips.

- **Store on a suitable surface.** Before installation, store the boards on a clean, hard, flat surface to prevent warping. A grass surface, for example, is not suitable.

PREPARATION

Spacing composite materials

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Please ensure the correct sized 3 mm pilot holes (when using PuraFix™ secure screws) are pre-drilled before screwing into all composite products to avoid splitting. The length of the hole must be at least the same length as the screw.

SPACING THE BOARDS & SUB-FRAME

Due to natural expansion and contraction of material with changes in temperature, please ensure the following gapping requirements for all PuraShield™ Decking products:

- PuraShield™ Decking boards should have a min. 3 mm gap side to side
- PuraShield™ Decking board butt joints should have a min. 8 mm gap end to end
- Plastic lumber joist butt joints should have a min. 20 mm gap end to end
- A min. 20 mm gap is required when abutting walls or other fixed objects
- PuraShield™ Decking boards should not overhang joists by more than 20 mm
- To ensure sufficient water run-off, a drainage slope of 0.5% (5 mm per metre) should be incorporated

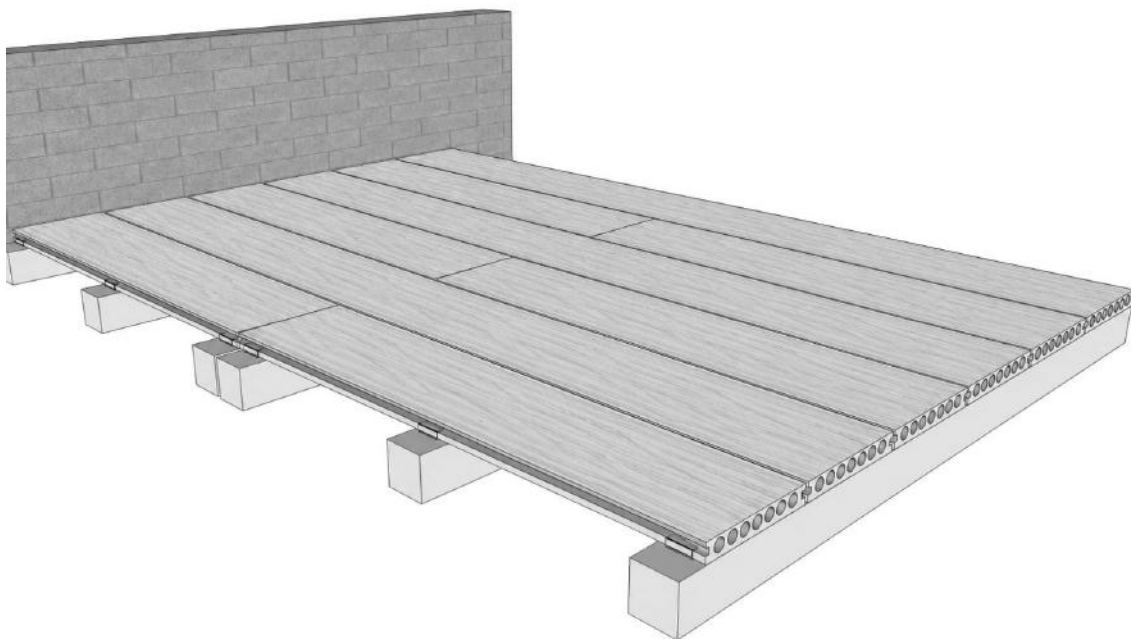


FIG. 1 – BOARD & SUB-FRAME SPACING – GAPS, JOIST CENTRES AND BOARD OVERHANG

Decking installation

With your sub-frame levelled and stable, you can now start installing your deck boards. If you are installing PuraShield™ Edge board or a picture-frame border, it is recommended to install the corner trimmings before installing the deck boards.

— INSTALLING THE DECK BOARDS

- 01 The first board must be fixed with PuraFix™ hidden starter fasteners that clip to the side groove of the board (fig. 2): align the starter fasteners along the first joist, every 300 mm along the joist length; securely screw each clip to the joist; simply clip the first decking board to the starter fasteners (fig. 3).
- 02 To fix adjacent boards, place PuraFix™ hidden fasteners (3 mm or 6 mm) into the grooved edge of the fixed board and insert the secure screw into the hidden fasteners (fig. 3): screw holes should be lined up with joist centres; ensure the countersunk section of the hidden secure clip is facing up; install 1 hidden clip on each joist; always use hidden clips at board ends; use 1 clip per board end at butt joints (never share a clip across 2 board ends).

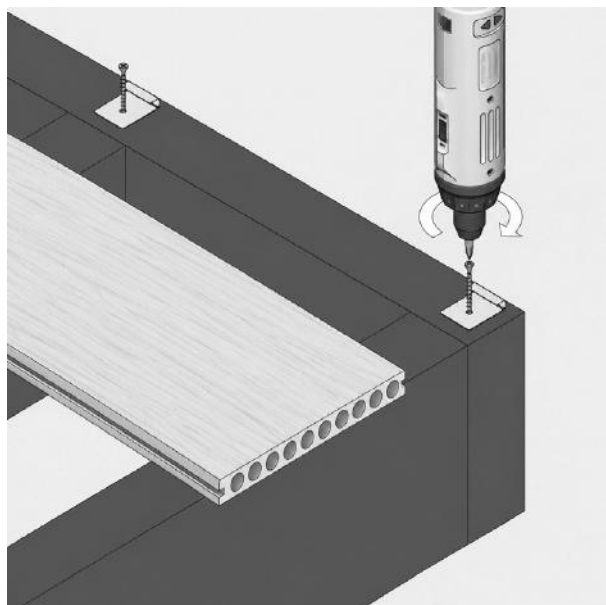


FIG. 2 – FIRST BOARD FIXED WITH PURAFIX™ HIDDEN STARTER FASTENERS

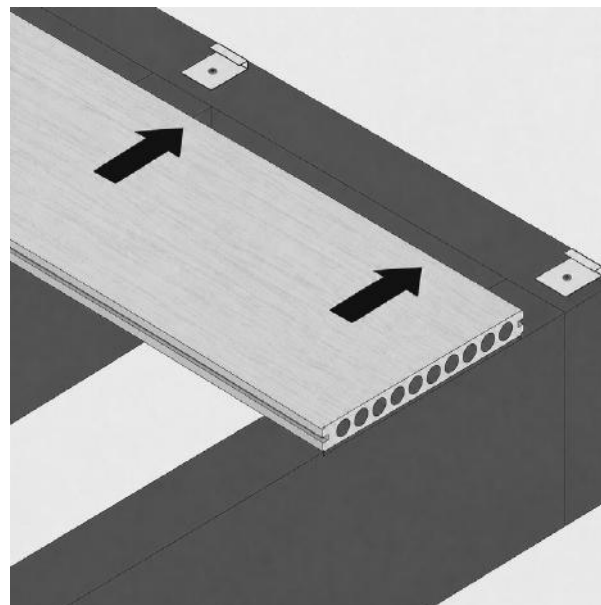


FIG. 3 – HIDDEN FASTENER SET INTO THE GROOVED BOARD EDGE

- 01 For 6 mm hidden clips, lightly screw in place; do not tighten at this point (fig. 4). For 3 mm hidden clips, fully tighten the screw at this point.
- 02 Place the next board into position against the hidden clips (fig. 5): slightly raise the outer edge of the board being installed and slide it onto the hidden clip; ensure the decking board edge contacts the spacer tab; lightly tap into position if required.

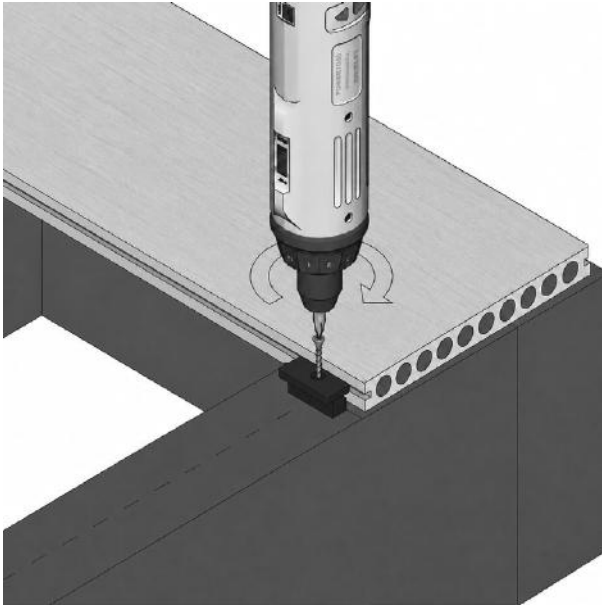


FIG. 4 - SECURE SCREW DRIVEN INTO THE HIDDEN FASTENER

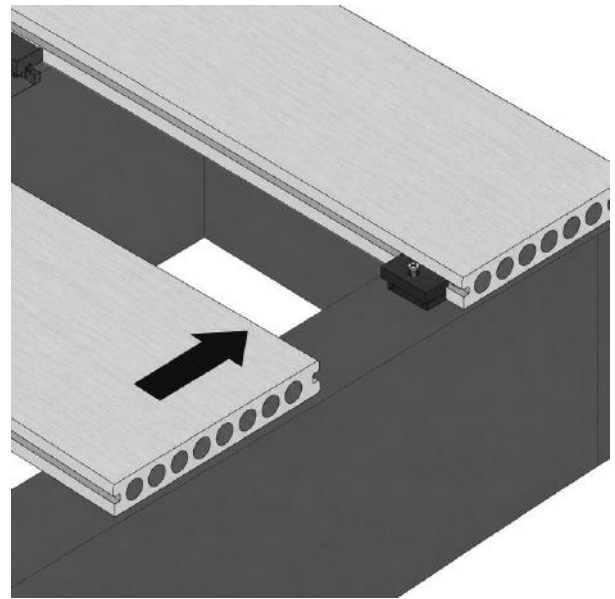


FIG. 5 - NEXT BOARD SLID ONTO THE HIDDEN CLIP

- 01 Fully tighten the hidden clips, between the last boards installed, down to the joists (fig. 6). Apply sideward pressure on the decking to ensure the tabs are hard up against the inside of the decking groove.
- 02 Repeat steps 2–5 until you have reached the last 2 boards (fig. 7). The last board can be fixed in 1 of 2 ways, outlined in the next section.
- 03 If you plan on using edge boards to finish your project, skip to Edge board installation; or if you plan on installing a 'picture-frame' border, consult Picture frame border installation.

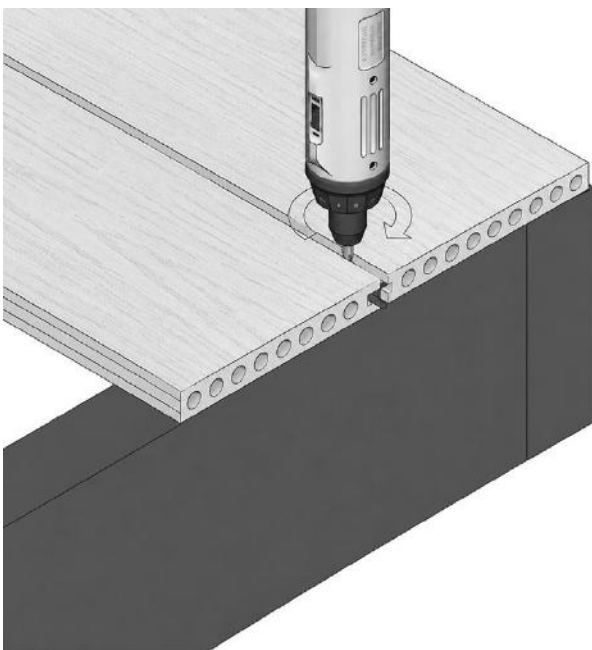


FIG. 6 - HIDDEN CLIPS TIGHTENED DOWN TO THE JOIST

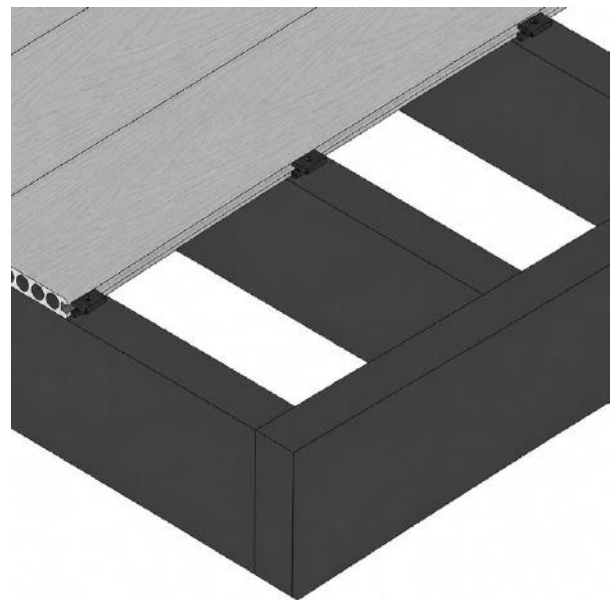


FIG. 7 - REPEAT UNTIL THE LAST TWO BOARDS REMAIN

Last deck board installation

PuraFix™ hidden 6 mm clip method

Knowing the width of the last 2 boards including the 6 mm spacing gap between them, mark on the last joist where the outer edge of the final board would lie.

- Using these marks, install the hidden starter clips securely in place for the outer edge of the last board
- Clip the last decking board to these starter clips (fig. 8)
- With the final board in place, insert the penultimate board
- With the 2 boards in place and at least a 6 mm gap between them, slide down the required number of 6 mm hidden clips (fig. 9)
- Secure the clips to the joists in between the last boards
- This option will only work with the 6 mm hidden clips. If you are planning on using the 3 mm clips, you must use the method below

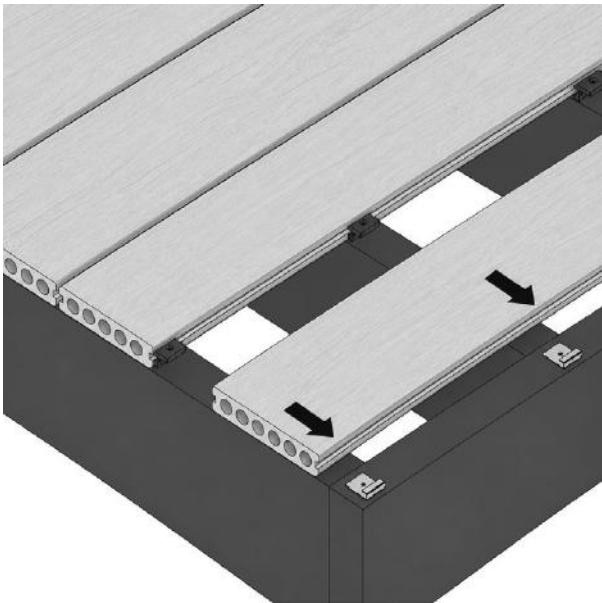


FIG. 8 – 6 MM METHOD – LAST BOARD CLIPPED TO STARTER CLIPS

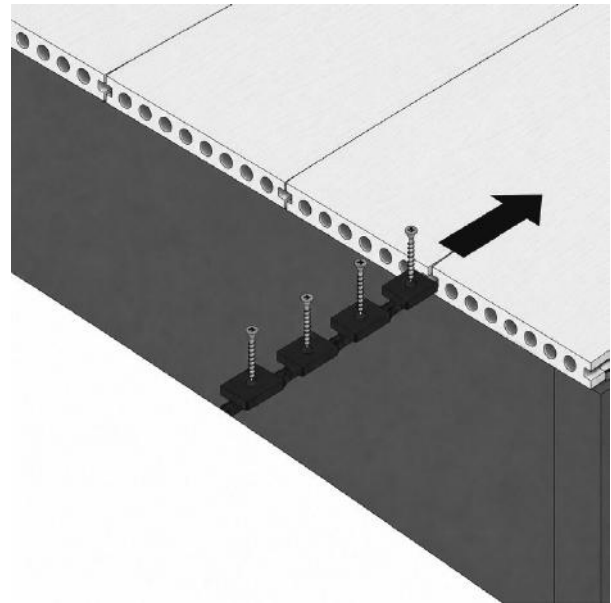


FIG. 9 – 6 MM HIDDEN CLIPS SLID IN BETWEEN THE LAST BOARDS

PuraFix™ hidden 3 mm clip method

With the last board in place after securing all other boards, screw through the bottom edge of the last board at an angle, securing it to the joist at 300 mm intervals (fig. 10).

- Pre-drill pilot holes in the deck boards 2 mm wider than the screw shank
- Do not over-drive screws into the deck boards, to avoid the material splitting

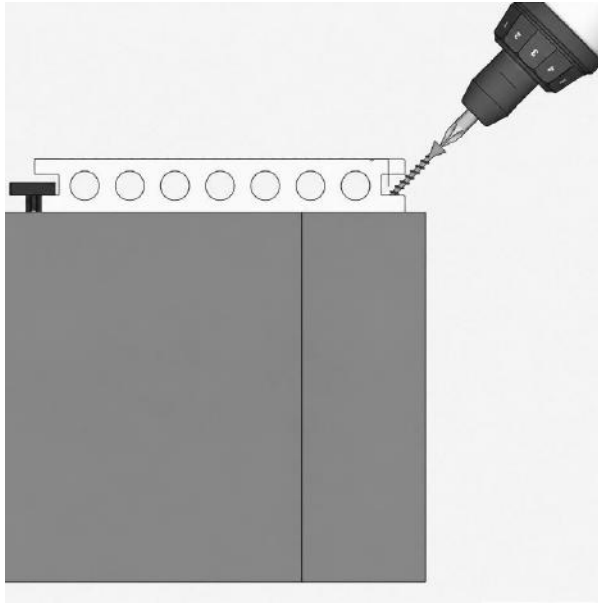


FIG. 10 - 3 MM METHOD - LAST BOARD SCREWED THROUGH THE BOTTOM EDGE

Diagonal decking installation

— BEFORE YOU START

- Recommended joist centres for diagonal installation are 250 mm
- It is recommended that you add 15% extra material, as you will generate more scrap from cutting

— DIAGONAL DECKING INSTALLATION

- 01 Place the central board first, ensuring the board is at a 45° angle (fig. 11): install 1 hidden clip each time the board crosses a joist; always use hidden fasteners to secure board ends; use 1 clip per board end at butt joints (never share a clip across 2 board ends); use a mitre square to ensure an exact 45° angle.
- 02 After laying the central board, progressively place each board outward toward the subframe corners (fig. 12): board offcuts can be kept and used for finishing the corners; allow a slight overhang over the edge of the substructure.

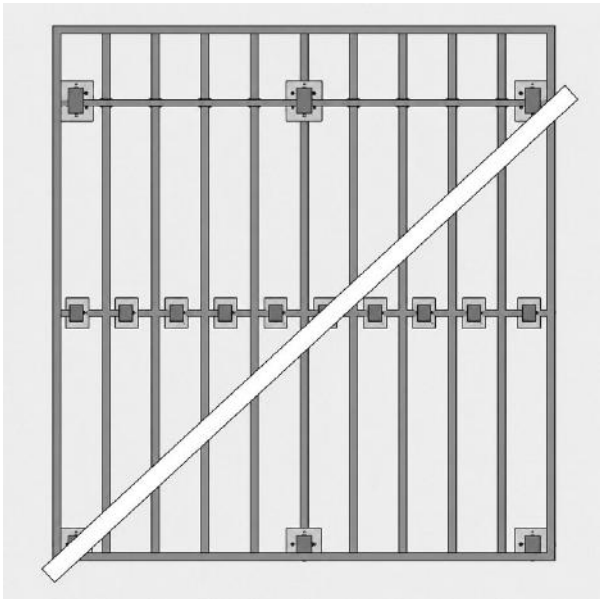


FIG. 11 – CENTRAL BOARD SET OUT AT A 45° ANGLE

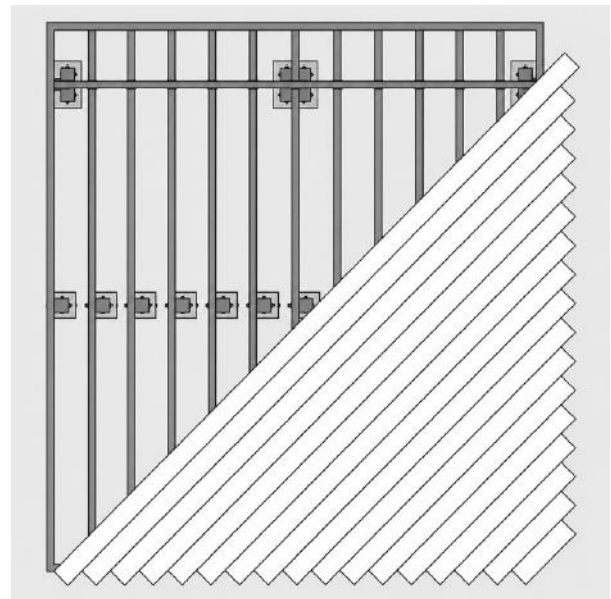


FIG. 12 – BOARDS LAID PROGRESSIVELY TOWARD THE CORNERS

- 01 Once all boards have been fixed in place, trim the deck-board overhang with a circular saw (fig. 13). Complete the deck with finishing as per the fascia, corner-trim or edge-board sections.

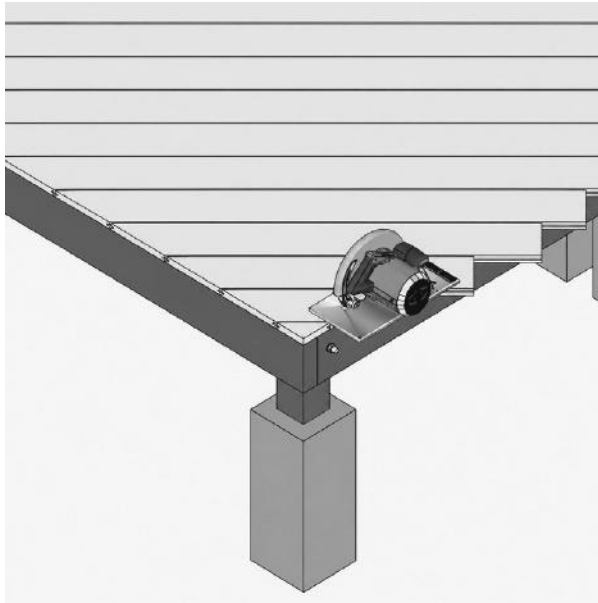


FIG. 13 – DECK-BOARD OVERHANG TRIMMED WITH A CIRCULAR SAW

Picture frame border installation

If you are planning a picture-frame border design (a board that runs around the perimeter of the deck) using either deck boards or PuraShield™ Edge board, you need to ensure you install the correct substructure layout.

PICTURE FRAME USING DECK BOARDS

- 01 A full joist width must be used under each deck-board end, so where the picture-frame board runs perpendicular to the main deck, you must have a double joist structure (fig. 14).
- 02 Where the picture frame runs parallel, you can install the board as per steps 1–6 of Decking installation with a 45° mitred end (fig. 15).
- 03 For the boards that run perpendicular to the main deck, place starter clips on the inner joist to hold the inner board edge in place (fig. 14). A clip should be installed every 300 mm along the length of the joist.
- 04 Slide the picture-frame board into the starter clips (fig. 15). You must leave the standard expansion gap between the mitred ends of the picture-frame border.

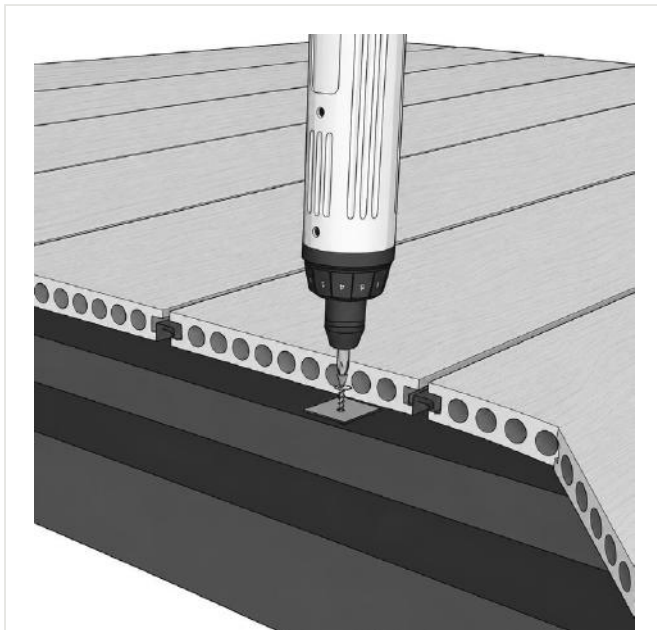


FIG. 14 – PERPENDICULAR PICTURE-FRAME BOARD OVER A DOUBLE JOIST

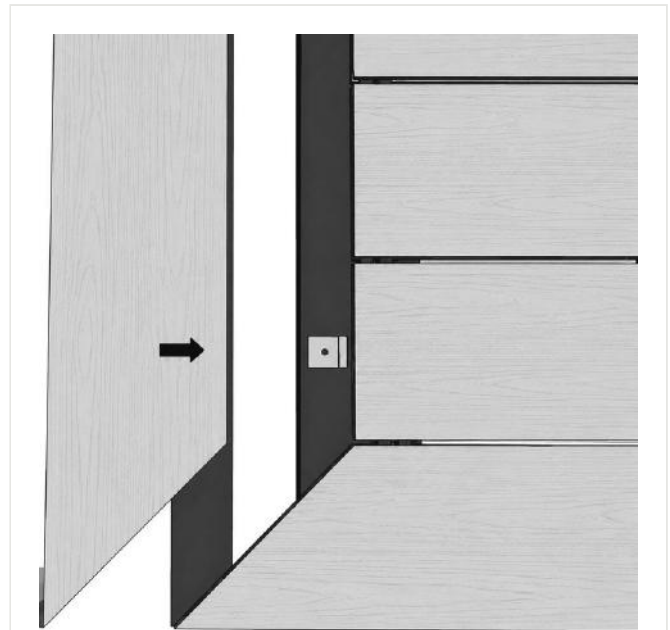


FIG. 15 – PICTURE-FRAME BOARD SLID INTO THE STARTER CLIPS

- 01 With the picture-frame board in place, screw through its outer bottom edge at an angle, securing it to the joist (fig. 16). Pre-drill pilot holes in the deck boards 2 mm wider than the screw shank; do not over-drive screws into the deck boards, to avoid the material splitting.

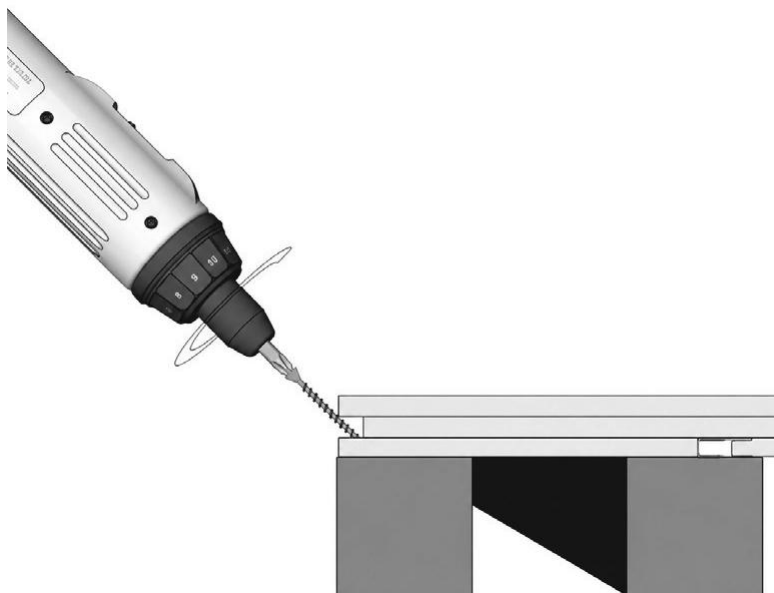


FIG. 16 – OUTER BOTTOM EDGE SCREWED AT AN ANGLE

Edge board installation

PuraShield™ Edge boards can be used with the hidden-clip system to create a flush finish for steps and deck-board edges. There are two methods for installing the edge board — parallel and perpendicular to the decking.

- Keep a 6 mm expansion gap between edge-board butt joints (min. 0.2% of the board's length)
- The edge board must be installed before laying down the decking

— PARALLEL BOARD INSTALLATION

- 01 Where fixing the edge boards around a corner, mitre the ends at 45° angles.
- 02 Secure starter fasteners onto the outer joist (fig. 17) at 300 mm intervals.
- 03 Line up the edge board and lay the underside groove directly on top of the starter fasteners (fig. 18).

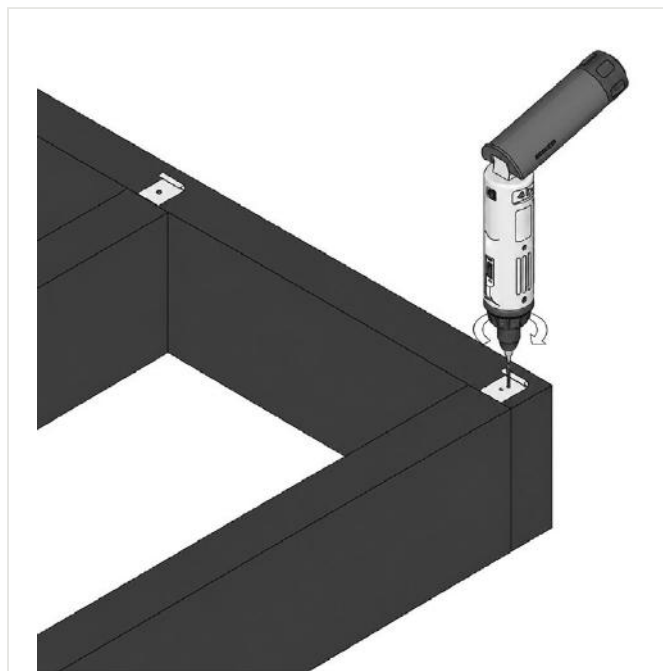


FIG. 17 – EDGE BOARD – STARTER FASTENERS ON THE OUTER JOIST

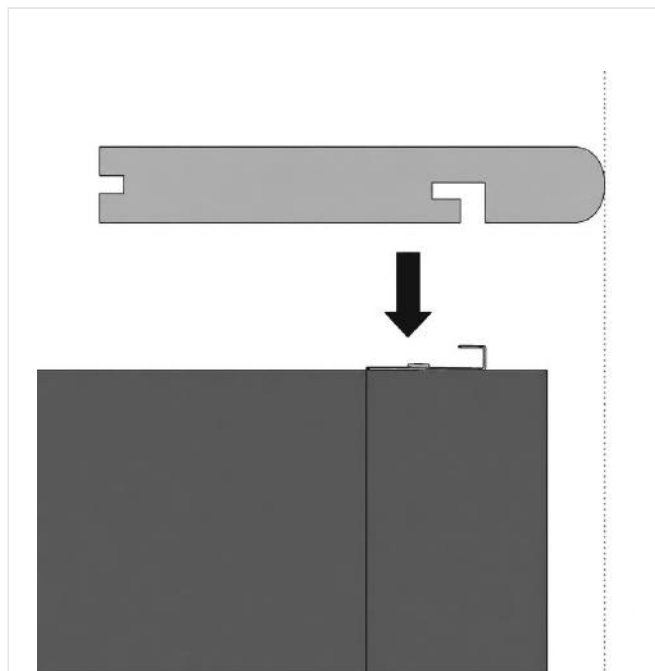


FIG. 18 – EDGE-BOARD GROOVE LAID ONTO THE STARTER FASTENERS

- 01 Push the board forward to lock the board (fig. 19).
- 02 Secure the remaining side of the edge board with hidden fasteners following steps 1–6 of Decking installation.

— PERPENDICULAR BOARD INSTALLATION

- 01 A full joist width must be used under each deck-board end, so where the edge board runs perpendicular to the main deck, you must have a double joist structure (fig. 20).

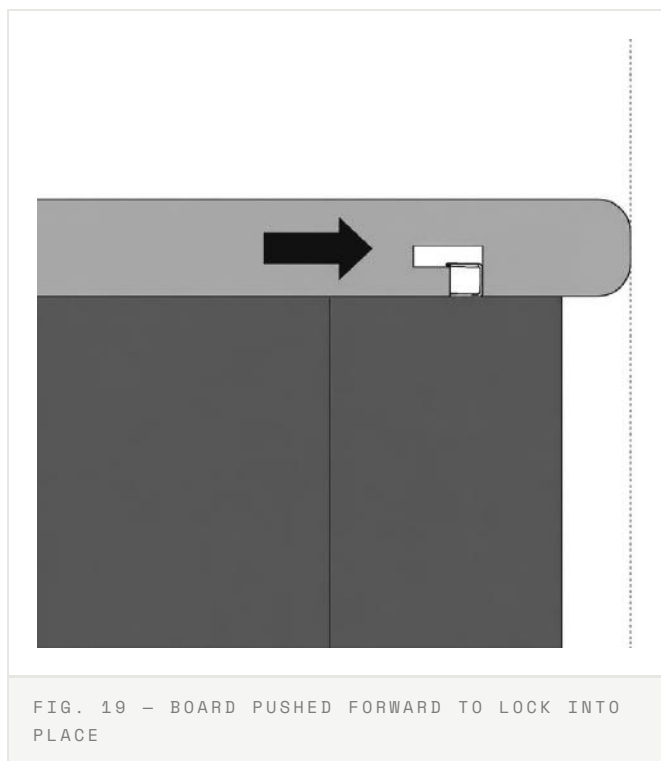


FIG. 19 – BOARD PUSHED FORWARD TO LOCK INTO PLACE



FIG. 20 – PERPENDICULAR EDGE BOARD – DOUBLE JOIST STRUCTURE

- 01 Secure starter fasteners onto the outer joist (fig. 21) at 300 mm intervals.
- 02 With the edge board in place, screw through the hidden-clip groove at a 45° angle, securing it to the joist (fig. 22). Pre-drill pilot holes in the deck boards 2 mm wider than the screw shank; do not over-drive screws into the deck boards, to avoid the material splitting.

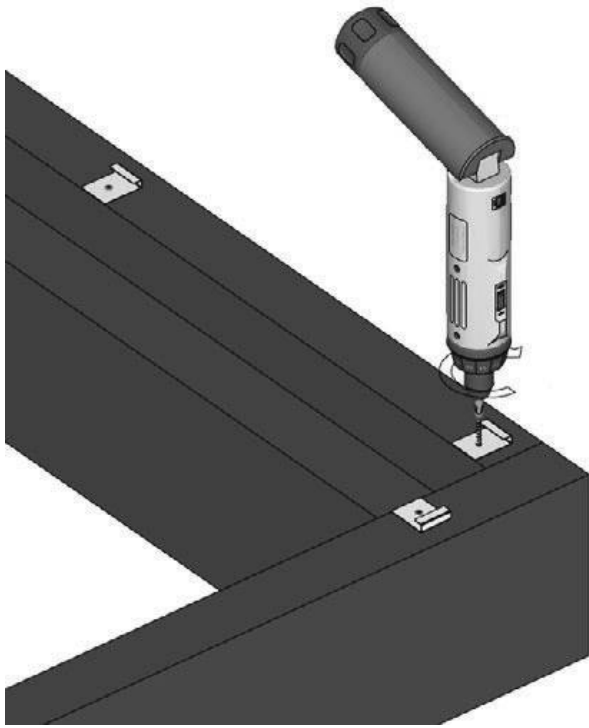


FIG. 21 – STARTER FASTENERS SECURED TO THE OUTER JOIST

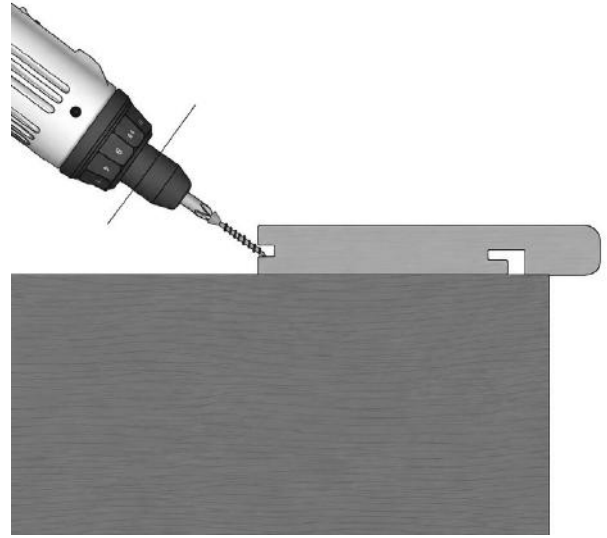


FIG. 22 – EDGE BOARD SCREWED THROUGH THE CLIP GROOVE AT 45°

Fascia board installation

BEFORE YOU START

You must ensure a suitable ventilation gap is left around the base of a deck, allowing air flow:

- **Hard / concrete foundations:** min. 20 mm gap
- **Soft / non-concrete foundations:** min. 40 mm gap

OPTION 1: FASCIA BOARD

PuraShield™ fascia boards can be used to skirt visible deck edges. This option will result in visible (although colour-matching) screws.

- 01 Line up the top fascia-board edge with the top of the decking to hide the grooved decking edge (fig. 23).
- 02 Pre-drill 4 mm countersunk pilot holes through the fascia board to avoid material splitting (fig. 24).

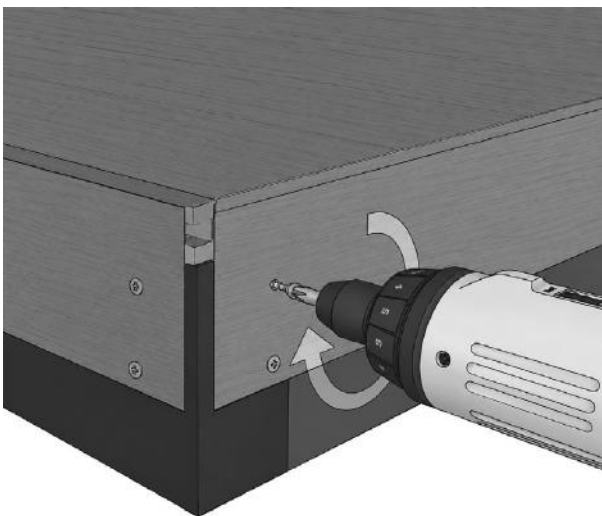


FIG. 23 – FASCIA BOARD FIXED TO HIDE THE GROOVED DECKING EDGE



FIG. 24 – COUNTERSUNK PILOT HOLES PRE-DRILLED THROUGH THE FASCIA

- 01 Fix in place with 60 mm PuraFix™ screws: fascia boarding should only be screwed in place; it is not recommended to attach the boards using adhesive glue.
- 02 Ensure you have left appropriate expansion gaps where fascia-board ends meet, min. 0.2% of the board length.

TIP

Rip-cut deck boards. To skirt visible edges on PuraShield™ decking, we recommend rip-cutting a deck board, cutting along the grain (lengthwise), and installing it as you would fascia boards.

FINISHING

Corner trim installation

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OPTION 2: CORNER TRIM

PuraShield™ corner trim can be used with PuraShield™ fascia and deck boards to cover exposed board sides and substructure. This option will result in visible (although colour-matching) screws.

- 01 Measure the required amount of PuraShield™ corner trim and cut down to size; mitre the ends at 45° angles if installing around corners (fig. 25).
- 02 Cover the deck edge with corner trim and attach with screws.
- 03 Pre-drill 4 mm countersunk pilot holes (fig. 26).



FIG. 25 – CORNER TRIM PLACED OVER THE DECK EDGE



FIG. 26 – CORNER TRIM FIXED WITH COUNTERSUNK SCREWS

- 01 Fix with 50 mm countersunk screws (fig. 26): do not over-drive screws when through composite products; finish tightening by hand; corner trims should only be screwed into the deck; it is not recommended to attach the trim using glue.
- 02 Ensure you have left appropriate expansion gaps where corner-trim ends meet, min. 0.2% of the board length (fig. 26).

Steps & stairs installation

— BEFORE YOU START

Steps must be min. 2 boards deep and max. 190 mm high per step rise (220 mm in private installations).

— INSTALLING DECK STEPS & STAIRS

If creating the step support frame using plastic lumber, it is recommended that you use 50 × 150 mm profile bearers and only in a box-frame structure (fig. 29).

- 01 Plan your step area, taking into account the decking-board and riser width, when designing the tread and rise dimensions.
- 02 Create a box frame to support your step area (fig. 27): ensure that the boards are supported at the appropriate joist centres; if you are creating multiple steps, ensure the base box is large enough to stack all steps on top (fig. 27).
- 03 For multiple steps, create additional smaller box frames and place on top (fig. 28).
- 04 You can secure the separate box frames by inserting a post into the inner corner of the box frame and screwing in place (fig. 28).



FIG. 27 – BOX FRAME BUILT TO SUPPORT THE STEP AREA

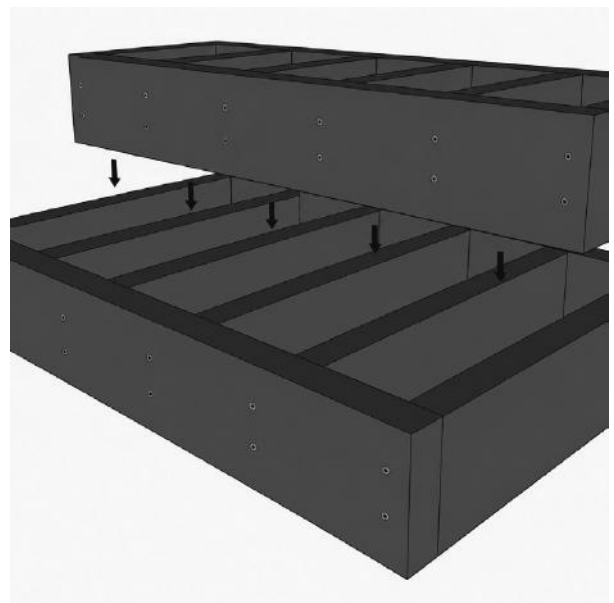
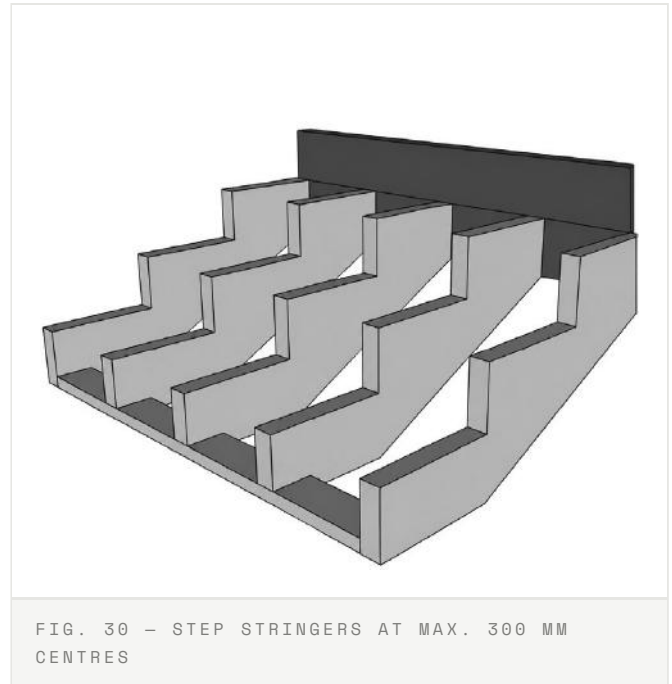


FIG. 28 – ADDITIONAL BOX FRAMES STACKED FOR MULTIPLE STEPS

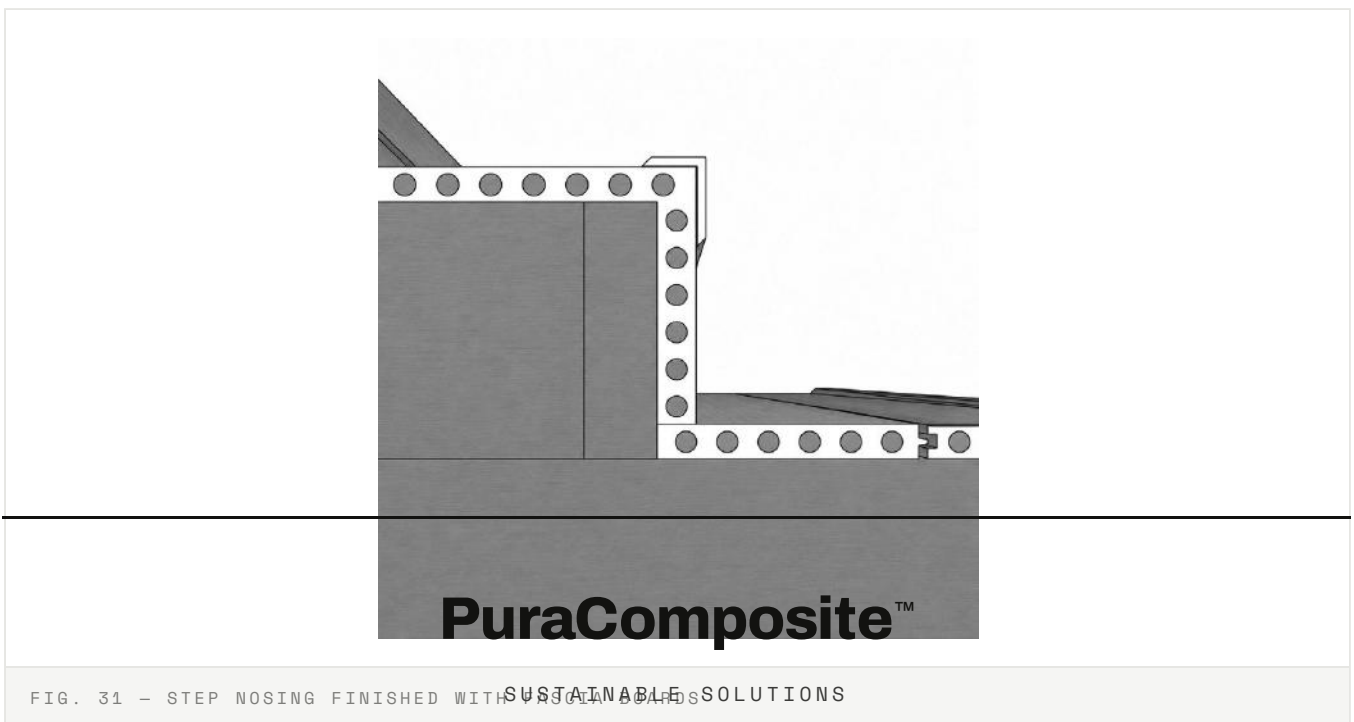
Alternatively, you can create step stringers using appropriate-width treated timber. You must use min. 3 stringers, at max. 300 mm centres (fig. 30).



— STEP NOSING: FASCIA BOARDS

For the step riser, attach PuraShield™ fascia boards by screwing directly through into the step frame.

- Ensure you pre-drill 4 mm countersunk pilot holes and do not over-drive the screw
- Install the first and second step tread boards as per steps 1–6 of Decking installation



For technical datasheets, warranty terms, BIM/CAD files and sample requests, contact PuraComposite or visit puracomposite.com.

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