

# DuraComp™ Composite Decking Installation Guide

## Hidden Plastic Clip Fixing

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DuraComp™ Recycled Wood Plastic Composite decking has unique characteristics and specific fixing requirements that differ from timber. We strongly recommend that these guidelines are read thoroughly before commencing the design and construction of a deck using DuraComp™ decking to guarantee long term performance.

### Important Notes:

- It is essential to read and follow the steps listed in this installation guide prior to installing;
- DuraComp™ composite decking must not be applied directly to a solid surface;
- Commercial installations will need to be assessed on a case by case basis – please contact Cosset;
- Published dimensions of DuraComp™ deck boards are nominal only;
- Never fix boards relying on adhesive only. If fixing boards in areas without clips make sure you use a mechanical fix also (e.g. screw);
- Cosset hidden fixing clips are not suitable for irregular joist heights. While the fixing of the boards using the clips is fast and will save time over traditional fixing, it is important that extreme care is taken when installing your starting board and your first row of clips - this will govern the straightness of your deck;
- Always make sure you have ordered enough materials to save having to hold the job up for a few days if you are slightly short. We recommend you allow for 5% in wastage allowance for cuts and minor damage;
- Fixing details and specifications may change without notice;
- For further information regarding your DuraComp™ recycled composite decking contact Cosset.

## SECTION ONE: General Information

### Site Preparation

Your deck must be installed with a space of at least 100mm between the ground and the underside of the deck board. If installing over concrete, this can be reduced to 45mm. Direct contact between the deck and earth must be avoided.

To prevent weeds growing under your deck (if the surface is not sealed) we advise laying a root-stop fabric under the structure.

### Site Storage

DuraComp™ Recycled Composite decking must be stored flat and dry and off the ground in its original packaging, preferably in a well ventilated and sheltered place. To avoid building stress into your deck and having possible lengthways shrinkage, it is best to fix your DuraComp™ decking boards when the ambient temperature is less than 25°C and when the boards are not sitting in full sun (see Thermal Movement & Spacing).

Support the boards with dunnage when storing the decking prior to installation. When stacking, supports should start at each end and be placed 600mm apart. Never stack decking more than 2 packs high.

This method of storage is very important – incorrect storage may lead to poor product performance or damage. Check the material before installation and report any damages and defects to Cosset.

### Safety

You should ensure that the correct personal protective equipment is being used when installing your DuraComp™ decking. Cosset recommends as a minimum that safety glasses, gloves and a dust mask are worn during installation. It is the responsibility of the user to follow safe practices when using any tools during the installation process. Remember that DuraComp™ recycled composite decking is heavier than most traditional timbers and should be lifted and carried with care.

### Tools

DuraComp™ composite decking can be drilled, cut, fastened and routed with normal woodworking tools. For best results use carbide-tipped cutting blades and router bits. When using a mitre saw, best results are gained through using a 10" – 12" (25.4mm – 30.5mm) saw blade with 40 teeth or less. If a chalk line is used remember that some chalk lines are permanent. Check with the manufacturer or supplier to ensure that no permanent markings will remain after use.

### Foundation & Sub-structure

When constructing the substructure care must be taken to ensure that the joists are level, straight and square as DuraComp™ decking will conform to the level and orientation of the joists. Allow a 3-4mm fall per metre of deck, in the direction away from the structure, to aid good drainage / water runoff.

**IMPORTANT: When planning your sub structure, note that butt joints should only occur over a double joist, or a single joist with a top fixing surface of 75mm or more. Each board must be secured separately with a wing clip either side of the butt join.**

DuraComp™ composite decking should not be attached directly to any solid surface or watertight flooring system, such as concrete, brick or tiled patios, waterproof membranes or roofing. Treated timber, steel or ideally EVERTUFF™ recycled composite battens are required for fixing DuraComp™ decking over concrete. Good ventilation is a necessary requirement for your deck. The required clearance needed for adequate airflow and drainage between each DuraComp™ composite decking board is 3-4mm, as provided when fixing with Cosset clip systems. See Table 1.03v1 on page 5 in reference to the clearance required between the boards and the surface beneath the deck. Do not seal off deck ends, the airflow should be unobstructed and any water should be able to drain away freely.

Boards fixed across the deck at angles other than 90 degrees to the joists require closer joist spacing. Live and point load data will also need to be considered – Contact Cosset for assistance.

## Coverage

	DuraComp™ DECK100	DuraComp™ DECK140	DuraComp™ DECK242
Lineal metres per m <sup>2</sup>	9.6	6.9 / 7.0*	4.0
Gap between boards	4mm	4mm / 3mm*	4mm

Table 1.01v1 \*only when fixing DuraComp™ DECK140 with KlevaKlip

Consideration should be given to the overall deck size and the number of boards required to cover the deck. The deck boards will be installed across the deck and the finishing board may need to be trimmed in order to line up with the joists or, if working to full width boards, the joists may be cantilevered and trimmed back to the full width finishing board. Due to normal manufacturing tolerances and the potential for a slight difference in spacing between deck boards, we do not recommend trying to pre-determine the width of the final board. **Any cut outs around protrusions such as veranda posts or balustrades need to be fully supported.**

## Cantilever (overhang)

	DuraComp™ DECK100	DuraComp™ DECK140	DuraComp™ DECK242
Max. cantilever	25mm	40mm	45mm

Table 1.02v1

## Thermal Movement & Spacing

DuraComp™ composite decking expands and contracts longitudinally (lengthways) due to changes in temperature (there is minimal change to the width of the board). This is known as 'Thermal Movement' and products that contain plastic are especially affected.

It is very important to have an understanding of the board temperature, as boards cut at different temperatures will affect the appearance of the finished deck.

A 3600mm metre long board will grow in length by approximately 1mm for every 10 degrees Celsius increase in temperature. The board will contract in length by the same amount when the temperature of the board cools. This then dictates the butt end join gaps required for your project. If no gap is placed between boards (end on end) and the boards are laid cool, when they heat up and expand they will ultimately bend upwards causing permanent damage to the boards.

#### Guide for Butt End Join Spacing (temperature range at time of installation)

- laying boards in temperatures below 10 degrees Celsius, leave 4mm gap;
- laying boards in temperatures between 10-20 degrees Celsius, leave 3mm gap;
- laying boards in temperatures between 20-30 degrees Celsius, leave 2mm gap;
- laying boards in temperatures above 30 degrees Celsius, leave 1mm gap;

The longer the board the greater the potential for change in length due to temperature change. All boards must be the same temperature during the installation process (measuring & cutting). The boards should be kept in the shade so that each board is a similar temperature. If there is no shade on the site make sure that all measuring and cutting is done in the morning when the boards are still cool from the previous night. Once the boards are exposed to direct sunlight they will absorb radiant heat and increase in length, so it is important to refer to the above guide for Butt End Join Spacing.

Butt joints should only be used on boards 3600mm in length or less. A gap (see above) should be left to allow for expansion when installing the boards at recommended temperatures. Butt joints should always occur over a double joist, or a single joist with a top fixing surface of 75mm or more, to allow for the use of a fixing at the end of each board.

A 5mm gap is required around posts or other protrusions in the decking. Any protrusions should have joists fitted around them so that the end gaps can be fully supported.

## SECTION TWO: Fixings

### Fixing Specifications

**NOTE:** Joist centres below are based on a continuous span of 3 or more joists with 4kPA for uniformly distributed loads or 1.8kN for concentrated point loads. Contact Cosset for span data if your project has higher than noted design loads.

**Cosset Composite Decking Fixing Specifications**

	DuraComp™ DECK100	DuraComp™ DECK140	DuraComp™ DECK242
Dimensions*	100 x 24mm	140 x 24mm	242 x 21mm
Minimum ground clearance	100	100	100
Minimum clearance over concrete	45	45	45
Joist Centres laid at 90° to Joist	400	450	500
Joist Centres laid at 60° to Joist	375	425	425
Joist Centres laid at 45° to Joist	320	355	355
Joist Centres laid at 30° to Joist	225	250	250
Minimum end-gap (butt join) – see temperature guide	4	4	4
Minimum gap – side by side	3-4	3-4	3-4
Minimum distance from end of board for fixing	20	20	20
Minimum end gap to solid structure	5	5	5
Suitability for fixing to steel substructures	Yes	Yes	Yes
Suitability for commercial applications	Yes	Yes	Yes

**Table 1.03v1**

**\*Dimensions are Nominal**

### Finishing & Fascia Boards

The width of the finishing board can be reduced as required by sawing so that it remains supported across it's width by the joists and/or fascia board.

DuraComp™ decking boards make ideal fascia boards. When used as Fascia boards they should be screwed at not more than 900mm centres to an appropriate frame fixed to the sub frame.

Again, when using the DuraComp™ board as a fascia board, the hidden fixing groove can be removed as required. See also Table 1.05v1 (Re Order Codes) which details the different DuraComp™ offerings which can be used.

## Fixings Overview

**NOTE: Be aware of Dissimilar Metal Corrosion.**

Contact between dissimilar metals occurs frequently but is often not a problem. When two metals are connected and in contact with a conducting liquid (i.e. water) the more active metal will corrode and protect the noble metal. Stainless steels, including 304 and 316 are more positive than zinc and steel, so when stainless steel is in contact with galvanized steel and is wet, the zinc will corrode. However, a stainless steel screw can be used in a galvanized steel sub frame although you will see a small amount of zinc corrosion accumulate around the fastener.

There are various way to fix Cosset DuraComp™ composite boards:

### Recommended Fasteners to Use with Each Board

	Hidden Clip	KlevaKlip®	QuikDrive®	Direct Fix	Nail Gun
<b>DuraComp™ DECK100</b>	√	x	x	x	x
<b>DuraComp™ DECK140</b>	√	√	x	√	x
<b>DuraComp™ DECK242</b>	√	x	x	√	x

Table 1.04v1

We recommended using Cosset Deck Clips & Screws when installing DuraComp™ composite decking.

**Nail guns are not recommended for installation and void any warranty.**

## SECTION THREE: Hidden Plastic Clip Fixing

Cosset Deck Clips are supplied with blackened stainless steel screws designed to be used with either timber or steel joists. Make sure that you specify either 55mm for timber joists or 42mm for steel joists (suitable for mild steel up to a thickness of 2.0 mm only) when ordering your deck clips.



### Installation – Step by Step

#### Step #1: Install Start Clips and First Board

1. Install start clips on the edges of the ledger board (the part of the sub-structure supporting one end of the joists) centred on each joist;
2. Secure start clips with screws;
3. Push one edge of the DuraComp™ composite decking board into the start clips, noting the first board must be straight and well secured;
4. Start your deck close to the existing structure and work outwards ensuring that a 5mm gap is left between the start board and any solid structure ;

#### Step #2: Install Cosset Deck Clips & Screws

5. Insert Cosset deck clip into hidden fixing channel of the DuraComp™ composite decking board;
6. Align screw hole in Cosset deck clip with centre of joist, repeat this process along the length of the board at every joist;
7. Only screw deck clip half way down – do not fully tighten;

#### Step #3: Install Second DuraComp™ Composite Board

8. Slide the second deck board into place, making sure the Cosset deck clips fit into the groove;
9. Install the next connecting clip on the other side of the second board in the same manner as step #2;

10. Only screw deck clip half way down – do not fully tighten;

**Step #4: Complete Installation**

11. Tighten screws on Cosset deck clips in the first row;

12. Repeat this process tightening down each row after the board that follows is in place;

**Step #5: Install the Last Board**

***Method 1: Using Fascia Board***

13. Pre-drill pilot holes at an angle through the hidden fixing channel of the DuraComp™ composite decking board into the substructure below;

14. Screw fixing screws through the pilot holes and fasten;

15. Attach a fascia board flush with the deck surface to prevent a trip hazard;

***Method 2: With Deck Board Overhang***

16. Pre-drill pilot holes at a 45° angle from below the deck surface through joist;

17. Position last board into Cosset deck clip that overhangs deck joist;

18. Screw fixing screws through the pilot holes and fasten;

19. Position fascia board below overhanging deck board;

## SECTION FOUR: Re Order Codes & Profile Weights

### Re Order Codes - Decking and Rectangular Profiles

Note: Weights are included to assist with transport calculations to ensure vehicles are never overloaded.

Rectangular Profiles	Dimension	Re Order Code	Weight
EVERTUFF™	75mm x 45mm	ET75x45	3.5 kg
DuraComp™	95mm x 40mm	DS95x40	5.47 kg
DuraComp™	80mm x 10mm	DS80x10	1.0 kg
DuraComp™	100mm x 10mm	DS100x10	1.4 kg
DuraComp™	146mm x 10mm	DS146x10	2.0 kg
Decking Profiles	Dimension	Re Order Code	Weight
DuraComp™	100mm x 24mm l/m	DD100x24	2.26 kg
DuraComp™	100mm x 24mm s/m	DD100x24	21.3 kg
DuraComp™	140mm x 24mm l/m	DD140x24	4.5 kg
DuraComp™	140mm x 24mm s/m	DD140x24	30.8 kg
DuraComp™	242mm x 21mm l/m	DD242x21	6.86 kg
DuraComp™	242mm x 21mm s/m	DD242x21	28.1 kg

**Table 1.05v1** l/m = lineal metre s/m= square metre

### Re Order Codes - Fixing Accessories

Fixing Accessory	Re Order Code
Plastic Winged Clip for Fixing System	DFHFC
42mm Stainless Screw for Steel Joists	FS42SSS
55mm Stainless Screw for Timber and EVERTUFF™ Joists	FS55WSS

### Important Disclaimer

The technical recommendations contained in this publication are necessarily of a general nature and should not be relied on for specific applications without first securing competent advice. Whilst Cosset has taken all reasonable steps to ensure the information contained herein is accurate and current, Cosset does not warrant the accuracy or completeness of the information and does not accept liability for errors or omissions.