

DECKING AND BALUSTRADE INSTALLATION GUIDE

Issue 1



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BE SAFE WHEN WORKING AT HEIGHT

Ensure you conform to the latest Work at Height Regulations. For more details, visit:

www.hse.gov.uk/work-at-height

If in doubt at any stage

Please contact our Technical Support for additional support or advice.



0333 777 3047

DECKING GUIDE

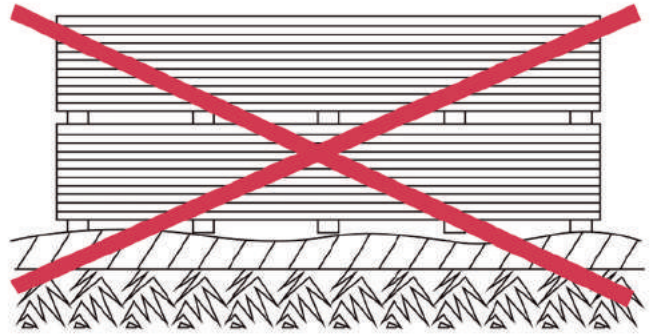
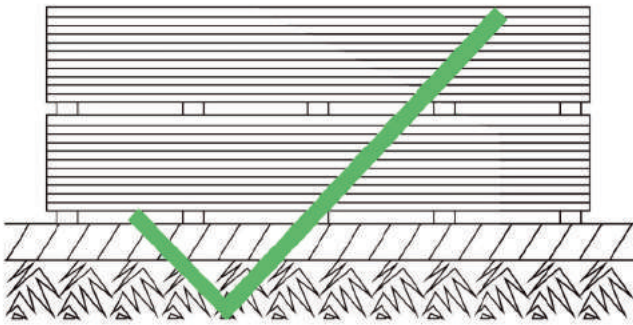
PRE-INSTALLATION INFORMATION



- ▶ Eurocell hold no responsibility for installations that are not carried out to instructions provided or inferior installations.
- ▶ Failure to install in accordance to these instructions will invalidate the Product Guarantee.
- ▶ Decking and Balustrade for Residential use only.



1. STORAGE



Eurocell decking boards should be stored on a flat solid surface on joists or pallets.

PRE-INSTALLATION CHECKS

Decking boards must be installed onto the correct base.

This can be constructed to the specification below using:

- ▶ Treated, structural C16 Grade Timber - Minimum 4" x 2" timbers though heavier timber may be needed on larger installations
- ▶ Dedicated aluminium or composite substructure kits
- ▶ Composite timbers – Minimum 4" x 2"

- ▶ If you are installing balustrade check how you are installing the posts as this process might require additional work on the sub-frame

DO NOT INSTALL THE DECKING DIRECTLY ONTO A GROUND LEVEL SOLID SURFACE

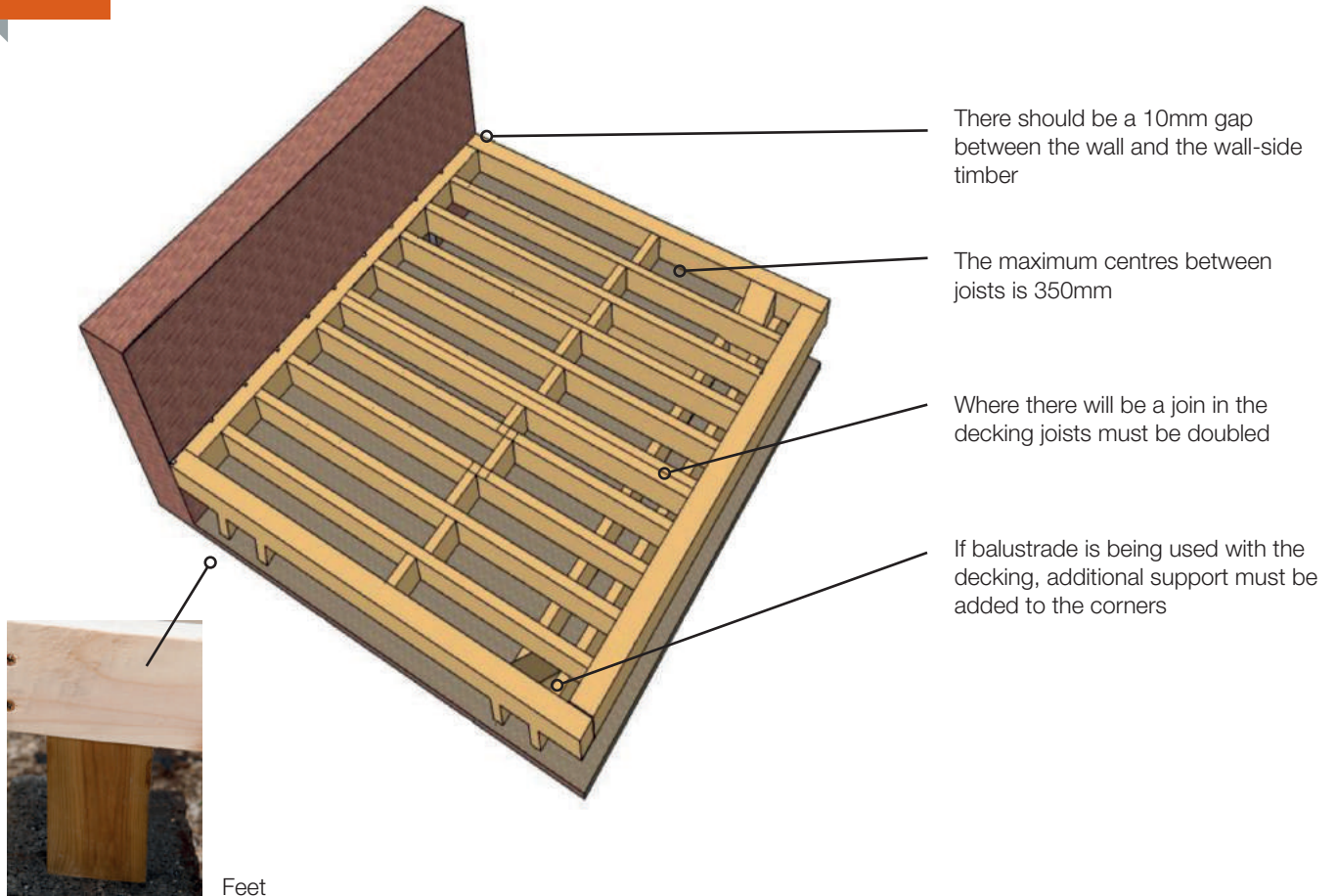
If using the step edging this is only to match the grooved side of the deck board.

Always make sure that the base is placed on a hard surface or on concrete slabs to support the decking sub frame.



2. SUB-FRAME INFORMATION

2.1



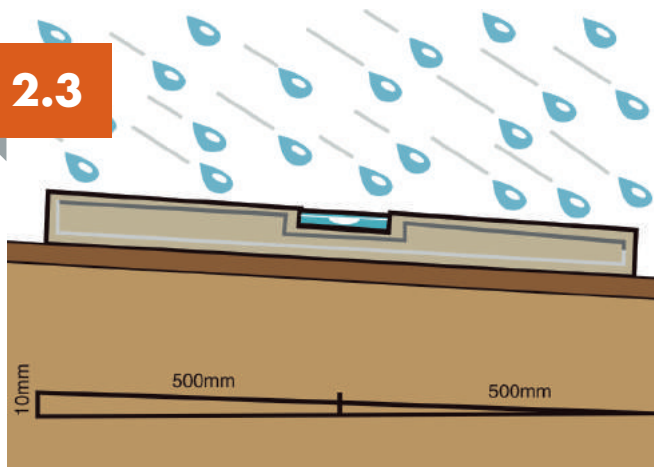
JOISTS SPAN

2.2

- ▶ Angled with 90 - 350mm
- ▶ Angled with 45 - 250mm

DECKING SLOPE

2.3

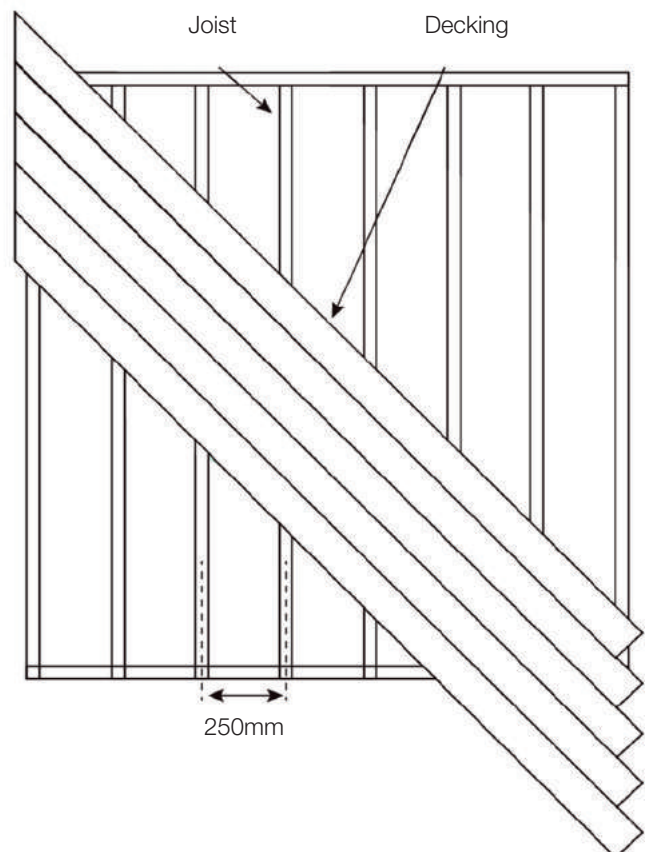
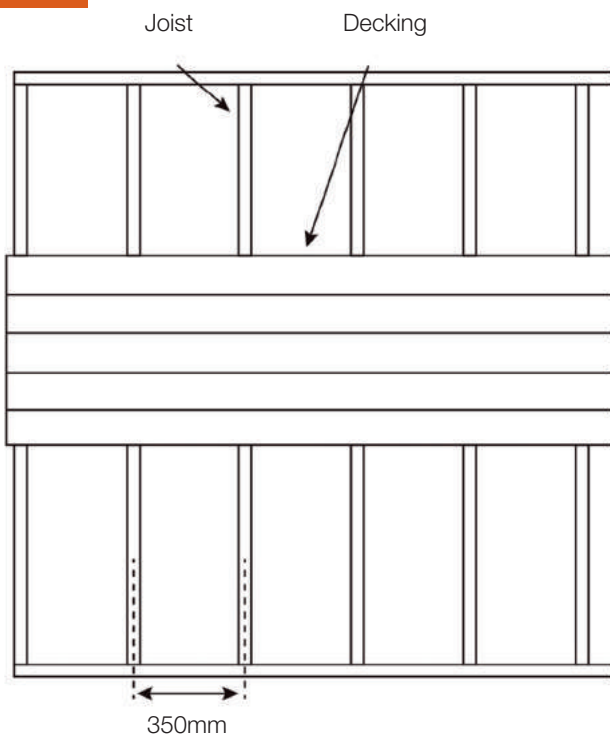


For rainfall not to flood the deck, a slope of 10mm/metre must be used on the frame towards the direction of the drainage to ensure that there is no free-standing water.

This way will make sure all decking boards are not immersed in water for a long time.

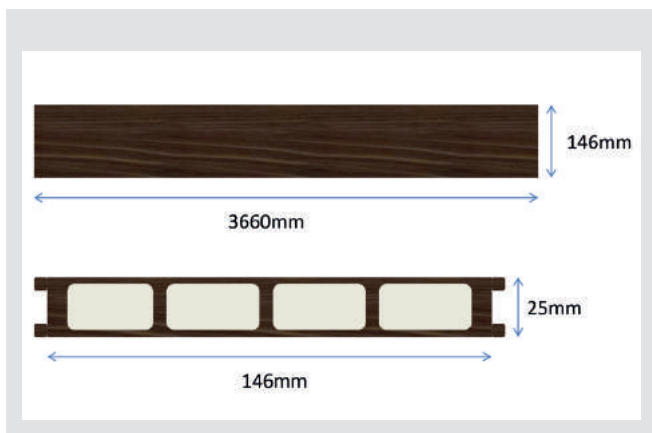
RESIDENTIAL DECKING INSTALLATION

2.4



► For diagonal decking the centres should be reduced to 250mm

3. DECK BOARD TECHNICAL DATA



4. HOW MUCH WILL DECKING EXPAND / SHRINK?

This is a very important question to answer and understand before installation. The table below gives a guide to the expansion gaps required based on length of plank and temperature change.

Gaps between planks in length direction are extremely important and necessary to avoid installation problems in the future.

Expansion and contraction are most significant where extreme temperature changes occur. Fastening the deck planks according to the gapping requirements noted in the following key points.

- ▶ Side-to-side gap between boards: 3-7mm
- ▶ End-to-object and side to object gap: Min 5mm

- ▶ End-to-end gap:3-7mm.
Decking installed in winter should leave more gap than installed in summer due to the expansion and contraction

TEMPERATURE CHANGE (°C)

	10°C	20°C	30°C	40°C	50°C	60°C	70°C	80°C
1.0M	0.3	0.7	1.0	1.4	1.7	2.1	2.4	2.8
2.0M	0.7	1.4	2.1	2.8	3.5	4.1	4.8	5.5
2.2M	0.8	1.5	2.3	3.0	3.8	4.6	5.3	6.1
2.9M	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
3.6M	1.2	2.5	3.7	5.0	6.2	7.5	8.7	9.9
4.0M	1.4	2.8	4.1	5.5	6.9	8.3	9.7	11.0
5.0M	1.7	3.5	5.2	6.9	8.6	10.4	12.1	13.8
5.8M	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0

This chart shows how much boards of certain length will change with temperature change.

5. HOLLOW DECKING - TOP TIPS

- ▶ Providing expansion gaps allows proper drainage and ventilation to the sub base which prevents the timber from rotting
- ▶ Do not lay the decking boards directly onto a solid surface
- ▶ Always allow 150mm air-gap to create unobstructed airflow under the deck
- ▶ Hollow decking should require minimal maintenance over its life, usually a clean-up with a garden hose is sufficient
- ▶ Do not use chemical product to clean decking
- ▶ Hollow decking can be cleaned with a pressure washer, but its important to ensure the unit is less than 80 bar, the temperature must be no more than 40°C, and position the lance head no closer than 30cm
- ▶ Do not place heavy items over 100kg on your deck or drag furniture across the decking planks which could damage your deck

Composite decking calculator

Deckboard size 146mm x 25mm x 3.66mtr

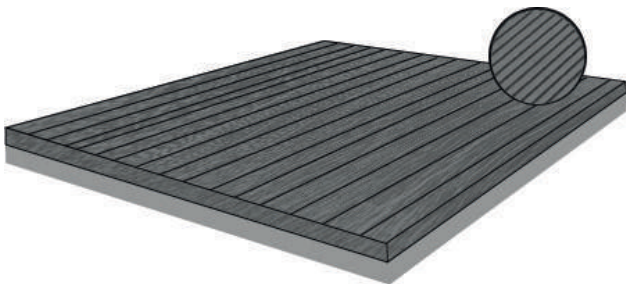
2 boards per square meter

12 clips per board

Example deck area 4mtrs x 3mtrs = 12 sq mtrs

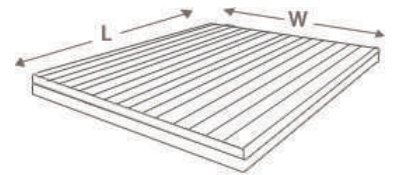
Boards required 12sq mtrs x 2 boards = 24 Boards

Clips 24 x 12 = 288 clips



How to measure:

Simply measure the width and length of your decking area. You can add multiple areas if your decking is not a standard square.



www.eurocell.co.uk/decking-calculator



Use our **FREE simple decking calculator** to quickly estimate the products you need for your project

6. STARTER CLIPS

6.1



Place the starter clip flat side down on the frame and push the hooked end to the edge of the sub-frame.

6.2



Screw down using a M4 x 18mm supplied screws.

6.3



Do this for every 350mm placed joist and 10mm from the end of each board.

6.4



The boards slide directly into the clip.

7. JOINTS AND GAPS



Recommended gap between board edges is 6mm.

This is automatically set using the black clips.

The black clips can also be temporarily used for spacing between the board ends, but please check if larger gaps are needed using the table on page 6.

Allowing for the correct spacing of all gaps and joints is very important, like with wood and other building materials all composite decking shrinks and expands with the changes in temperature.

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8. LAYING DECK BOARDS



PLASTIC CLIPS

Once the decking board is fitted against the starter clip, loosely attach the plastic clip against the front bottom lip of the decking board. Continue to do this along the length of the board.



Push the next deck board against the clip. Fully tighten the screws along the length of the deck.

9. CORRECT JOIN FOR DECKING BOARDS

9.1



Where there is a join in the decking the supporting joist must be doubled to allow the clip to sit correctly.

9.2



Attach a plastic clip to each joist, as Step 4.

9.3



Locate the first board into the clip, keeping the clip loose.

9.4



Locate the second board into the clip, using the plastic clips to create the spacing between the boards. Make sure you are able to remove the clips when the boards are tightened. **Check against the table on page 6 if the space is correct.**

Once the boards are in position, tighten as is Step 4.

10. STEP NOSE DECKING BOARD



A trim and a board in one

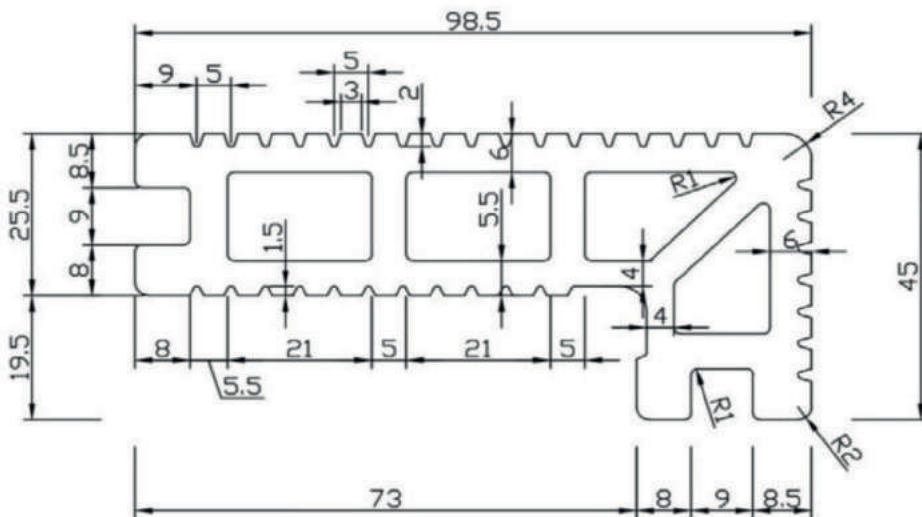
Step nose decking board is ideal as it does the job of a trim but creates a seamless flow of deck from the surface down to the sides.

Connect the step nose the same way as the decking boards by using the plastic clips on the surface and the sides of the deck, then continue with more boards on the surface or down the sides (extra timber supports for the sides may be required to keep the edge straight).

To deck around a 90 degree corner simply mitre at 45 degrees and slide together, if it is a deck board skirting under this 90 degree corner they will require bevelling at 45 degrees also.

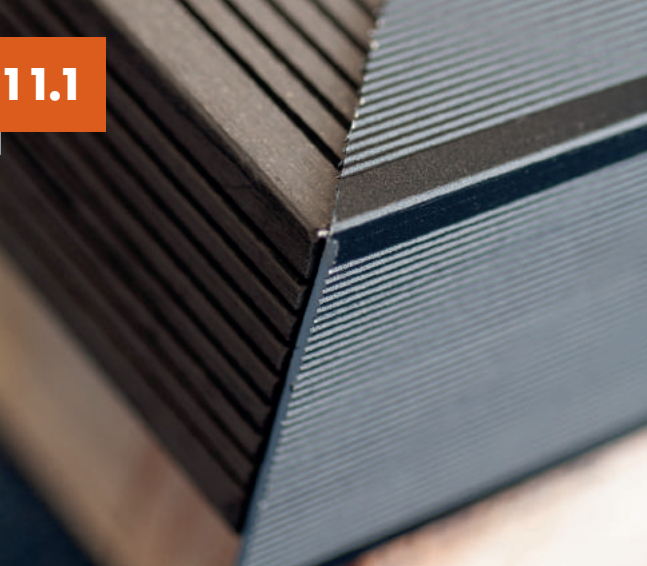
The step and edge nosing is finished only with a grooved face to easily identify the edge of the decking area and provide additional grip to use for stepping on or alighting from the deck area.

STEP NOSE BOARD TECHNICAL DATA



11. EDGING TRIM

11.1



The L shape edging trim can be used to cover any external 90 degree profile.

Cut to suit the angle of the perimeter of the deck.

Check sizes are correct by laying in position, if good then remove trim.

Remember to leave an expansion gap for the boards under the edging trim.

11.2



Then using a 2mm drill bit, drill 30mm from the ends and equally space the rest of the holes at approximately 600 centres and tap in colour coded poly top pins.

11.3



Check that the poly pins fix to the timber sub-frame, you may have to adjust hole locations across the width of the trim.

Note: You must ensure that the pins fix into the sub frame and not the boards.

BALUSTRADE GUIDE

PRE-INSTALLATION CHECK

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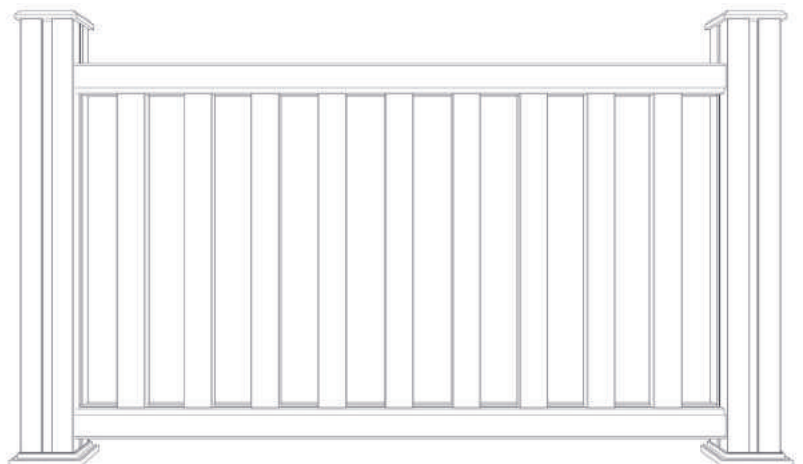
Failure to install in accordance to these instructions will invalidate the Product Guarantee.



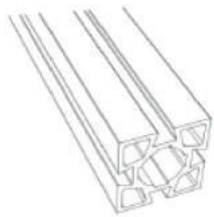
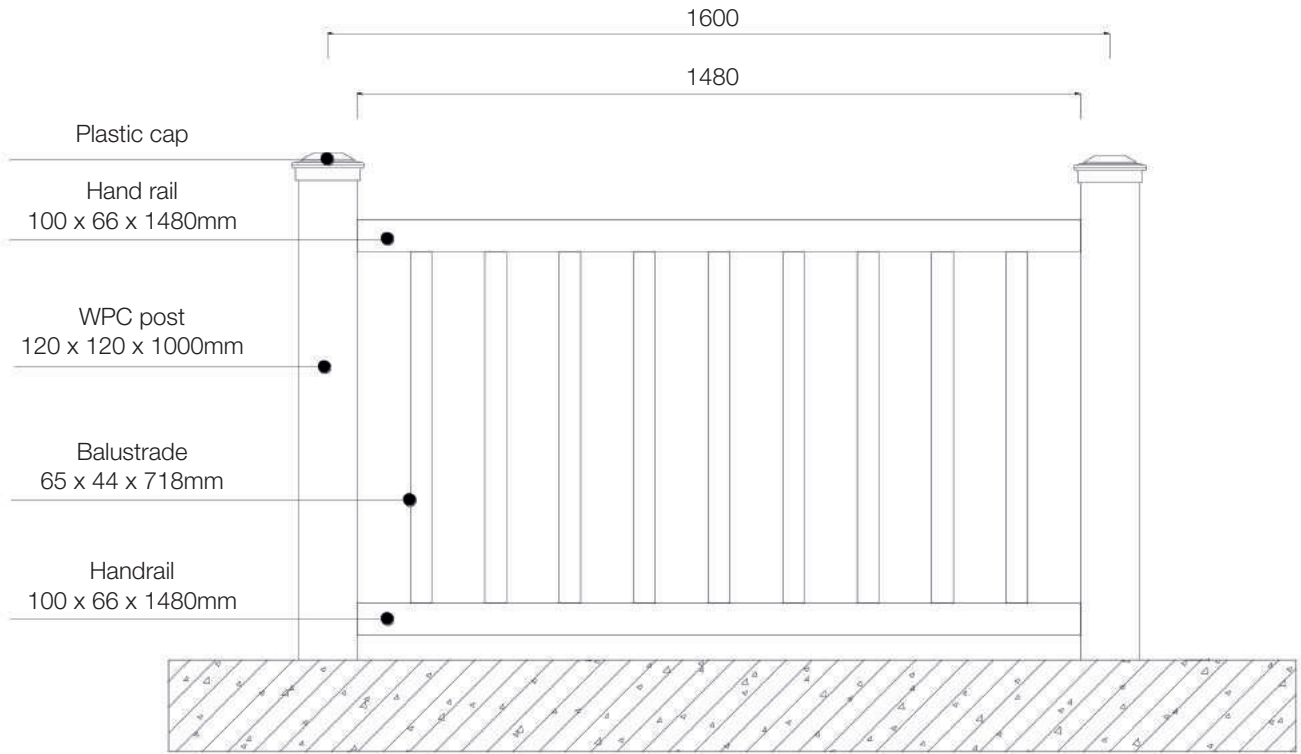
1. HAND RAIL SYSTEM OVERVIEW



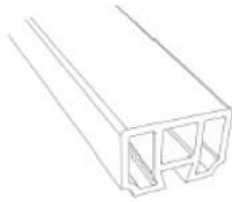
- ▶ Ensure balustrades are fitted to provide an 80mm gap to keep within UK safety regulations



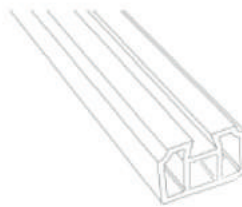
HAND RAIL SYSTEM OVERVIEW



120 x 120 x 1000mm
Post



100 x 66 x 1480mm
Top rail



100 x 66 x 1480mm
Bottom rail



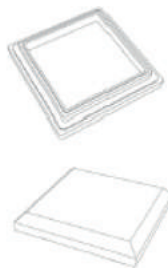
72 x 44 x 718mm
Baluster



32 x 80mm
Rail connection



31 x 20mm
End cover



146 x 146mm
WPC post cap & skirt



140 x 140mm
Steel holder

HAND RAIL SYSTEM OVERVIEW

Eurocell makes installing a railing kit simple by providing ready made 1480mm long sections of handrail and bottom rail, complete with balusters and connectors.

The following installation guide is based on a standard railing section as on **page 15**.

You may need to adjust the dimensions according to your site situation.

IMPORTANT INFORMATION



Please note that no opening is permitted to be more than 100mm or 10cm, this includes the spaces

in-between spindles and the gap between the bottom rail and the surface of the deck.

PRE-INSTALLATION CHECK



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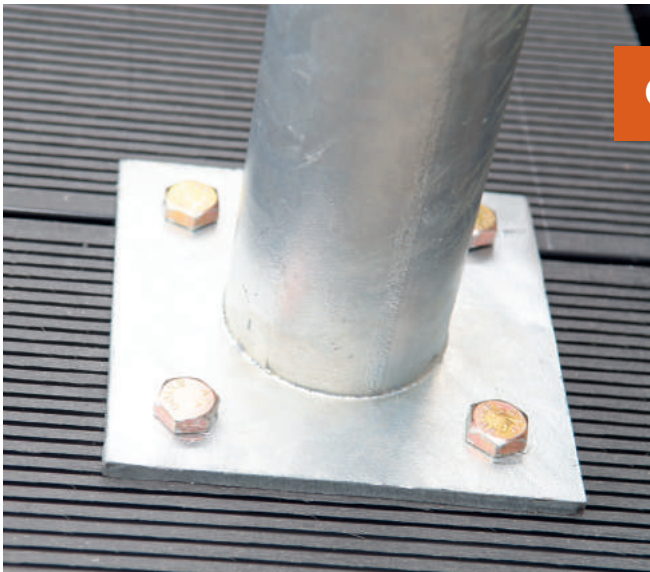
Failure to install in accordance to these instructions will invalidate the Product Guarantee.

2. POST FIXING METHOD

Your next step is to choose your method of installation of the wood plastic composite posts for your railing kit.

SURFACE MOUNT

Follow step 3



OR



Surface mount your posts after your deck has been laid using the Eurocell steel post mounts, these are placed on top of the decking board and fixed directly through to your sub frame.

The surface mounting method is shown later on in this guide.

In this system you will install your wood/plastic/composite posts before laying the decking boards. The wood/plastic/composite posts are built directly into the sub-frame and securely fixed using coach bolts or screws in a couple of directions. A sub-frame of double beam construction provides the best wood/plastic/composite post housing.

3. SURFACE MOUNT INSTRUCTIONS

3.1



Put steel post mounts in position and make sure that they are vertical and that the distance between the centres of the posts is 1600mm, then mark the hole positions and drill

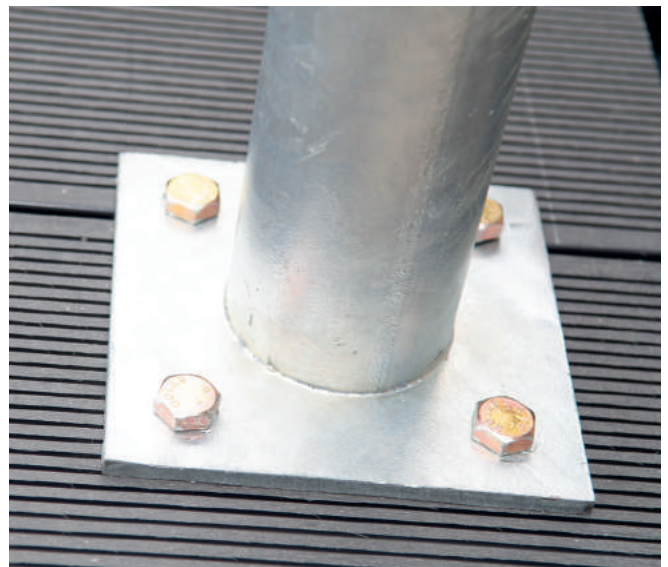


through the deck board with a 8mm drill bit or if being fixed to concrete the expansion bolts supplied require a 14mm hole.

3.2



Screw posts mounts down using a suitable fixing and check that there is no movement in the steel post mount and that they are vertical.



Kit includes concrete bolts. If fitting to the decking please use 80mm M8 bolt.

3.3



Slide the wood plastic composite posts down onto the steel post mounts and again check that they are level.



Place plastic newel post over steel post and drill 4 pilot holes for screws (L:40mm x3mm Flat head).



Insert screws to fix plastic newel post to steel post.

3.4



Cut a small piece of end cover to 56mm and slip it into the channel from the top to the bottom so that the height of the bottom rail can be set. Please note that cutting at 56mm will give you an overall height of 50mm as 6mm sits behind the bottom rail section.

Next place the post skirt over the post straight down to the bottom.

3.5



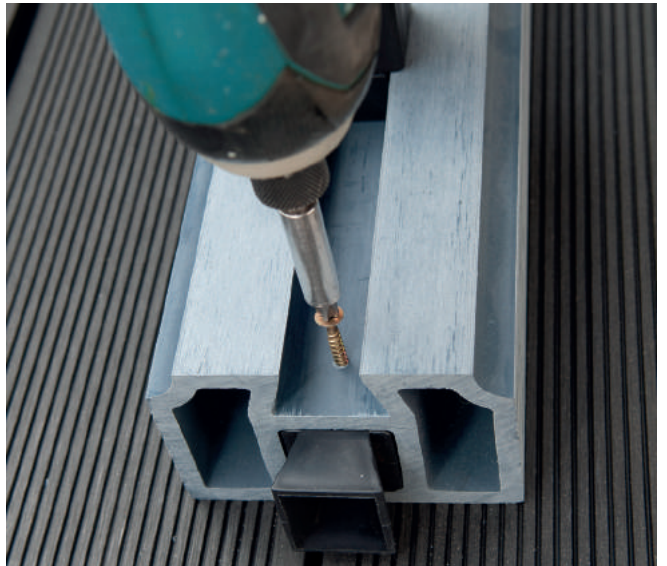
Insert the rail connectors in either side.

3.6



Slide in the end cover pieces (standard and already cut) into the channel of bottom rail, slip a rail connector into the channel, then repeat.

Fix a screw as shown in the picture before you insert the last piece of end cover at both ends this is to make sure the rail



connector is securely fixed into the rail. This is done by drilling a pilot hole 30mm in and central to the channel and that the connector is fully in is important before screwing.

PLEASE NOTE THE PILOT HOLE MUST NOT BE BIGGER THAN THE SCREW.

3.7



Slide the finished bottom rail into the channels in the posts, then whilst keeping horizontal slide down to the bottom until the rail rests fully on the end covers that were placed in the channels earlier.



3.8

Make up the top rail section as per bottom rail. Position 9 pieces of baluster to the connectors. Insert a long piece of end cover into the channel to each post (this needs to be cut to the standard length of 770mm, 50mm of this is located behind the rails).

Next slide the handrail into the post channels and take care to put each connector into its balustrade.

NOTE: The wide face has to face outwards.



If balusters appear to be loose then use a packer to make the baluster tight to the connector.

3.9



Slide a small 96mm piece of end cover into the channel above the handrail and repeat process on other side of the rail.



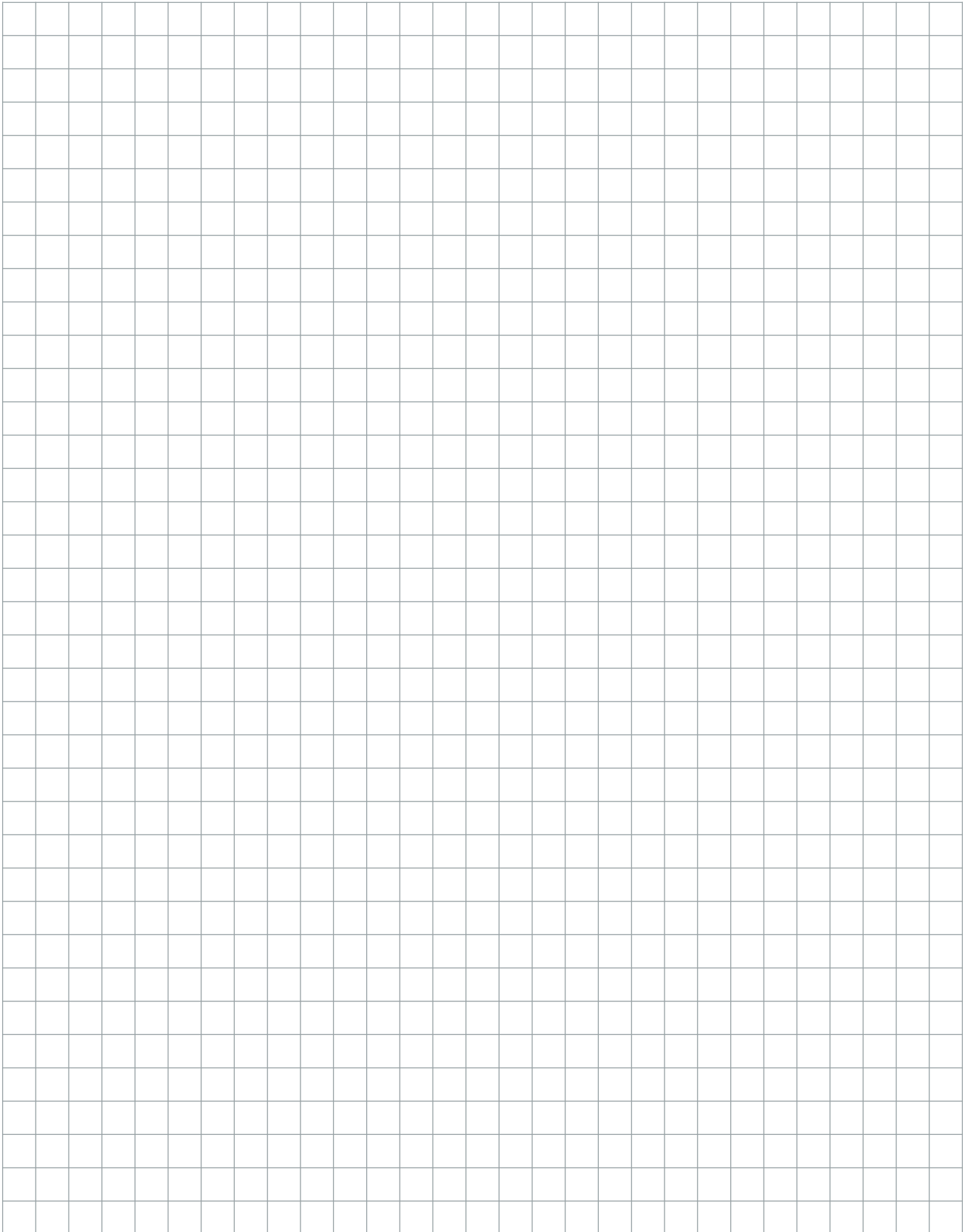
Add top cap to complete.

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DESIGN GRID



CONTACT

For further information, contact the Eurocell Technical Team on **0333 777 3047**. Visit **eurocell.co.uk** to find installation guides and videos for Eurocell products.

