



Installation instructions

SILVADEC® deck boards

PU7 V23 – 11/09/2019

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Thank you for choosing SILVADEC® decking! We hope you will be completely satisfied with your purchase, and will enjoy it for many years to come!

PLEASE READ CAREFULLY BEFORE ANY INSTALLATION OF SILVADEC® DECK BOARDS

These installation instructions apply to SILVADEC® wood composite deck boards from the “Natural” (Elegance and Emotion) and “High-Tech”(Atmosphere) ranges.

These deck boards are designed for pedestrian use outdoors. They are non-structural with a dynamic load bearing capacity of 500kg/m², evenly distributed. Elegance and Emotion deck boards must not be installed indoors, under cover or in semi-covered locations. Only Atmosphere boards are suitable for covered or semi-covered locations.

Before beginning installation, check the boards all match for colour and finish (brushing and texture). Since these are wood-based products, there may be minor differences between boards. Silvadeck SAS disclaims responsibility for damage caused by, or failure of, the product as a result of faulty installation caused by failure to follow these instructions. Failure to follow these instructions will void the Silvadeck guarantee.

The standards of reference for installing SILVADEC® decking are Eurocode 1 - Actions on structures (EN 1991) and Eurocode 5 - Design of timber structures (EN 1995). Local regulations should also be observed.

Additional information is available in our installation instructions for other products in our range (PU26 - Decking Accessories, PU21 - Decking LED, PU32 - Removable Clips), downloadable from our website.

TECHNICAL FEATURES

Layout: With 5 mm lateral gaps between boards, and bearers placed 40 cm apart - centre to centre, 1 m² of decking requires:

Using 138 x 23 boards	Using 180 x 23 boards
7 linear metres	5.4 linear metres
Approximately 18 to 20 installation clips depending on the complexity of your decking's surface pattern (one clip at each board/bearer intersection)	Approximately 14 installation clips depending on the complexity of your decking's surface pattern (one clip at each board/bearer intersection)
3 linear metres of bearers (double bearers to be added if installing without butting clips)	3 linear metres of bearers (double bearers to be added if installing without butting clips)

Board sizing tolerances to be considered for layout and installation:

Width +/- 2 mm, Length +/- 10 mm.

Board dimensions: 138 x 23 mm or 180 x 23 mm (+/- 2 mm)

Standard length: 4 m (+/- 10 mm)

Maximum length: 6 m (+/- 10 mm)

Minimum length: 1 m (+/- 10 mm)

Weight by length: 138 mm board = 3.5 kg/m; 180 mm board = 4.6 kg/m (+/- 5%)

TOOLS RECOMMENDED FOR SILVADEC® BOARDS

All normal tools for installing a timber decking may be used. We recommend tungsten carbide-tipped saw blades and an adjustable torque electric screwdriver. Never use an impact drill.

GROUND PREPARATION

Drainage

On non-draining ground ensure a slope of at least 10 mm per linear metre in the lengthwise direction of the bearers for water to run off, ensuring there is no water catchment at the lowest point of the decking.

Ground stability

The decking may be installed on sloping level ground (concrete slab with no dips or bumps, re-profile if necessary), on piles or pedestals. It can also be installed on compacted ground other than concrete (stone on sand and geotextile). In the latter case, bearers must be supported by solid concrete expansion spacers to avoid settling variations (see technical references).

BEARER INSTALLATION

For pedestrian access installations (paths, walkways, etc.), note that **deck boards must be laid perpendicular to the direction of movement, especially for public areas.**

To allow for proper ventilation, boards must never be installed directly on the ground, but on SILVADEC® wood composite or aluminium bearers, or on durable timber bearers (class 4 treated pine or exotic hardwood). These bearers must be at least 42 mm wide, with a below-board height of 50 mm. SILVADEC® wood composite bearers (50 x 50 mm) are not made of load bearing materials. They must **only be used on flat surfaces** and must be in contact with the ground throughout their length (concrete slab or compacted ground with integrated concrete expansion spacers). **They must not be installed in water. They must not be used directly on weather proofing (see reference standard).** They must only be cut for length and never for width or height. When using pedestals or piles, we recommend SILVADEC® aluminium bearers or solid wood bearers (class 4 treated pine or exotic hardwood), installed according to regulations (see reference standard). For installation using SILVADEC® aluminium bearers, please refer to PU26 - Decking Accessories, also available on our website.

The bearers, of whatever type, must be installed using specific spacing, as detailed below:

Angle between bearers and boards	90°	45°	30°
Maximum spacing - mid-point to mid-point	40 cm	20 cm	10 cm

SILVADEC® wood composite bearers use floating installation: they are held in place by the weight of the boards and by the installation clips. They must not be set or embedded in concrete, fixed to the ground in more than one place, fixed or glued to each other.

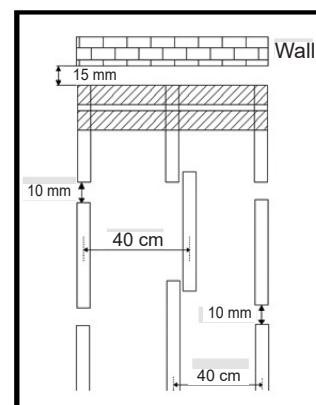
When butting, leave a **gap of at least 10 mm** between bearer ends, or, if possible, use an offset rather than end-to-end installation. It is essential to leave a **gap of at least 15 mm** between the bearer end and a wall or obstacle, to allow for drainage and expansion (see diagram).

To correct height discrepancies of no more than 5 mm, use only rigid expansion spacers sold specifically for this purpose. Insert them no more than every 30 cm under SILVADEC® wood composite bearers, which are not load bearing materials.

You are also strongly advised to install the bearers in the direction of the gradient of the ground, to encourage water run-off.

Do not install any mesh, felt or geotextile above the bearers, so as not to impair ventilation or drainage between the deck boards.

We recommend initially installing bearers to overlap the edge of the decking, cutting them to length when the decking is complete.



Example of offset installation

DECK BOARD INSTALLATION AND FIXING

The upper surface of deck boards and exposed accessories has a brushed finish to imitate the appearance of wood and increase grip. The non-brushed surface must not be uppermost. During installation, we recommend laying all boards with the **brushed finish in the same direction**, to reduce colour differences from board to board.

A - Instructions:

- It is important to maintain **lateral spacing of 5 mm** between the boards (if clips are used, this spacing will be automatic). Pay attention to this spacing if you are using exposed screws.
- It is important to maintain spacing of **5 mm between board ends**. Check this spacing using the plastic expansion spacers provided with the clips.
- In addition to clips, boards of less than 2 m in length must at one end be screwed or nailed from above to the bearers.
- For short boards (< 80 cm), use at least three support and fixing points.
- The ends of each board must be fixed to a bearer in order to prevent any risk of deformation or breakage. Any overhang must not exceed 25 mm.
- Do not place screws within 25 mm of the end of the board to avoid splitting.
- Use of glue is strongly discouraged, for reasons of ventilation, expansion and contraction.
- **Do not use too much torque when inserting screws.** We recommend making a test on a board off-cut.
- For the best results, we recommend beginning installation alongside building walls, evening up the opposite side using a straight-edge and a circular saw.
- Where boards are butted, make sure the ends are resting properly and stably on the bearers, cutting them to length if necessary.
- We recommend staggering butted joints for aesthetic reasons.

B - Fixings:

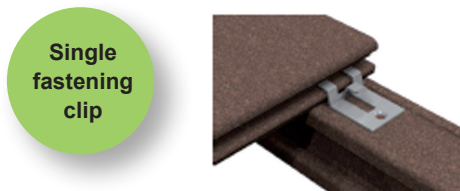
We propose three fixing systems for different installations and appearances.

1 - Stainless steel concealed clips

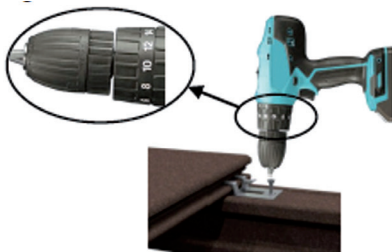
These three types of stainless steel clip facilitate the installation of a SILVADEC® wood composite decking. Supplied with screws, the clips are concealed, further enhancing the decking's appearance. The single fastening and butting clips help maintain a minimum lateral gap of 5 mm between boards. To ensure the correct gap is achieved, the clip must be properly bedded into the groove, without forcing. Do not use a different brand of clip.

NB1 - Aluminium installations: The screws supplied with the clips must be replaced by Ø4 mm countersunk stainless steel self-tapping screws supplied with SILVADEC® aluminium bearers.

NB2 - Galvanised steel installations: The screws supplied with the clips must be replaced by countersunk galvanised steel self-tapping screws no bigger than Ø4 mm (not supplied).

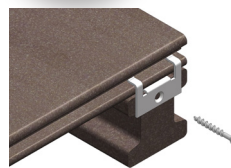
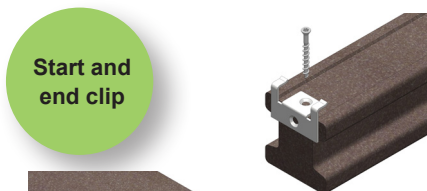


The first board is positioned, the clip slips under the board.



Fix clips to bearers with screws using suitably adjusted torques.

NB: Pre-drilling is required for exotic hardwood bearers.

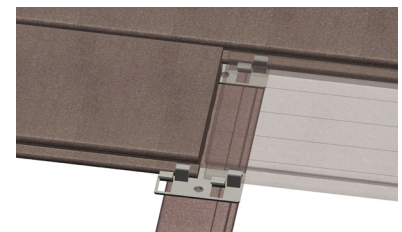


Edge boards can be fixed with start and end clips.

The clip is screwed to the bearer from the side or above (e.g. decking edge against a wall). They secure the peripheral boards without exposed screws.



The butting clip is fixed in the same way as the single fastening clip.



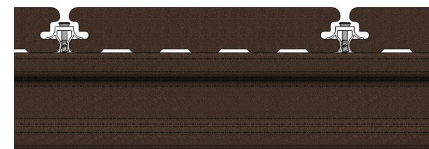
The butting clip fixes 2 boards end to end and provides extra support for the board ends.

2 - Removable clips (concealed fixing)

The SILVADEC® removable decking clip can be used:

- to give access to a feature underneath the decking (water-proofing, electrical connection block, etc.),
- to make the decking partially removable by inserting one or two rows of removable clips at regular intervals between 2 boards, instead of the stainless steel clips.

To install removable clips, refer to "PU32 Removable clips", available on our website.



3 - Exposed screws

3-1 Correct screws

- Special SILVADEC® coloured composite screws. Pre-drilling is ESSENTIAL, with a bit no bigger than 3.5 mm - screws sold separately. Use a low torque and high rotation speed setting. N.B.: Our coloured screws are not suitable for edging sea or salt-water swimming pools. In this instance use standard A4 stainless steel screws.
- VBA 5*50 mm screws. Pre-drilling is ESSENTIAL, with a bit no bigger than 3.5 mm.

3-2 Screwing boards to bearers

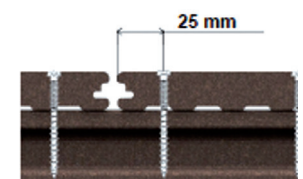
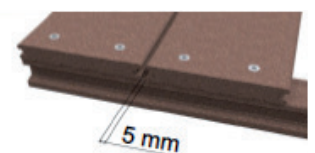
Screws **MUST NOT** be inserted less than 25 mm from the edge of the board (even with pre-drilling). Boards and bearers must be pre-drilled with a bit no bigger than 3.5 mm.

NB: it is ESSENTIAL to leave the correct expansion gaps (see paragraph "C - Board spacing" below). It is essential to insert 2 screws at each intersection of board and bearer, so every 40 cm.

Tip: for an elegant finish, countersink the pre-drilled hole to embed the screw head.

NB1 - Aluminium installations: Recommended screws: maximum Ø5 mm / 35 mm countersunk stainless steel self-tapping screws (not supplied).

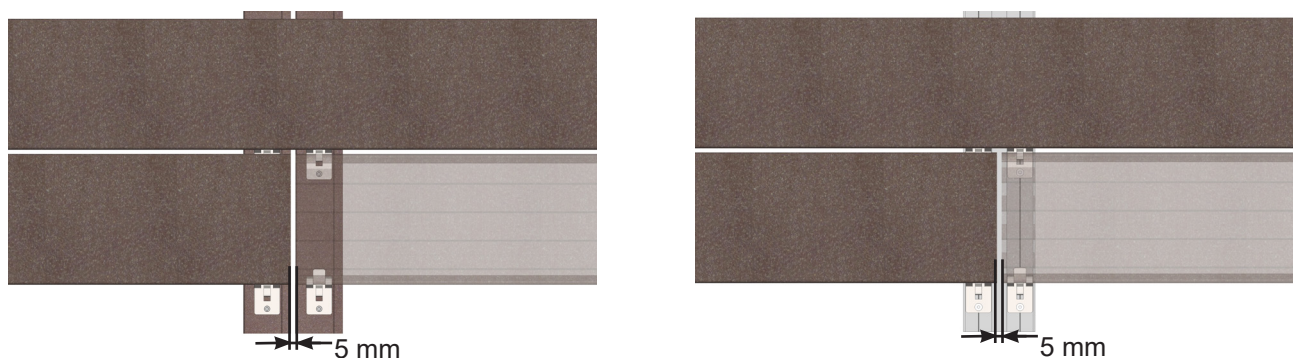
NB2 - Galvanised steel installations: Recommended screws: maximum Ø5 mm / 35 mm bi-metal self-tapping screws with wings - stainless steel shaft + case-hardened steel tip (not supplied).



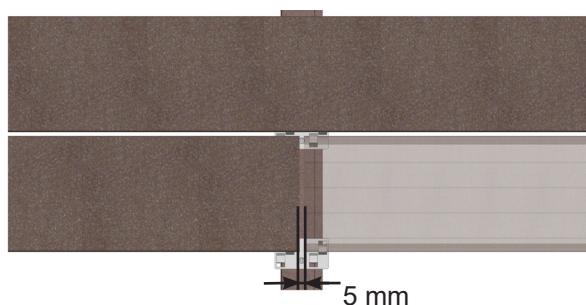
C - Board spacing

A **lateral gap of at least 5 mm** is essential, allowing for expansion due to temperature variations, as well as water and snow-melt drainage. This gap between boards must not be obstructed.

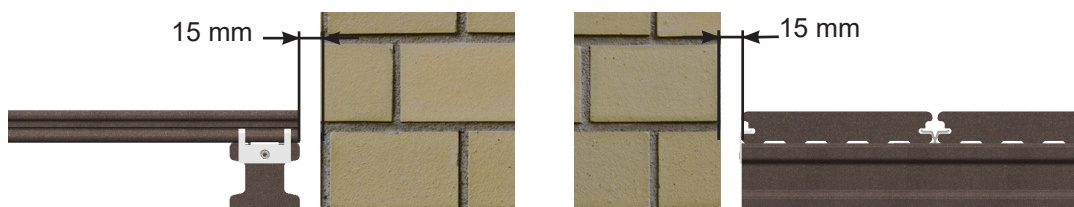
Similarly, a **gap of at least 5 mm** must be left between board ends; do not butt boards over 4 metres long. When butting, we recommend using double bearers, SILVADEC® aluminium bearers, or bearers over 70 mm wide, with single fastening clips:



If none of these options are possible, use butting clips:



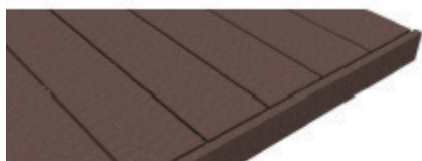
The **expansion spacer** from the clips packet must be used to maintain these gaps between board ends. A gap of at least **15 mm** must be left between boards and bearers and any **walls**:



FASCIA BOARDS

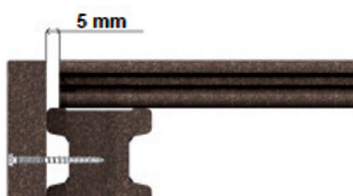
Before fitting fascia boards, the fixed deck boards must be trimmed to an even finish using a straight-edge and a circular saw. Fascia boards are fixed to the bearers using SILVADEC® 5*50 mm special composite screws (sold separately), with a 5 mm gap between board ends. Do not use nails.

Fascia boards: perpendicular to deck boards



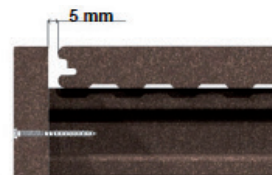
To conceal bearers lengthwise (perpendicular to the deck boards), screw fascia boards to the bearer, leaving a gap of 5 mm between the deck and fascia boards.

Fixing fascia boards



Pre-drill the fascia boards with a 3.5 mm bit, then insert screws every 40 cm.

Fascia boards: parallel to deck boards



To conceal bearer ends (parallel to the deck boards), screw fascia boards to the bearer ends, pre-drilling the fascia boards with a 3.5 mm drill and inserting screws every 40 cm.

TECHNICAL DETAILS

- For decking installed above weather proofing, plan access points to inspect and clean the weather proofing, as per professional regulations.
- When creating hatches above manholes, a structural framework is essential (metal or solid wood). Leave an expansion gap of 1 cm around any hatches.
- Do not use deck boards to create anchor points for fixing pool covers, lamp-stands, fence-posts, etc..
- Leave expansion gaps around items embedded into decking (spotlights, posts, etc.).
- Posts for pool shelters must not be placed on non-structural boards. Wheels must run on rails in order not to pierce the boards.
- We do not recommend using wood composite (deck, fascia, or finishing boards, corner profiles) at water's edge around pools. Use a purpose designed trim.
- The embossed finish may fade away over time. This is not a defect. The boards are entirely suitable for their intended use.

Cutting suggestions for the Atmosphere range of co-extruded materials: for a clean cut to Atmosphere boards, avoiding splintering at the edges, the advice is the same as for cutting melamine boards. Use a large diameter saw blade and set it to cut only a few millimetres deeper than the board.

- To extend board life, especially for large areas of decking, we strongly recommend maximising air-flow under the deck, for example by using anti-rodent grills rather than fascia or finishing boards.

MAINTAINING SILVADEC® DECK BOARDS

Refer to our maintenance sheet delivered with the boards. It is available from our distributors and can be downloaded from our website www.silvadec.com. We can also send it to you on request. This sheet must be passed on to the end user of the products.

STORAGE ON SITE AND HANDLING

SILVADEC® boards and accessories must be stacked on a flat, dry surface, in a well-ventilated area, so as to prevent any deformation. We recommend breaking open the pallet to help with airflow. Boards should be kept with the brushed surface downwards, to avoid temporary colour differences with products that have not been exposed to sunlight. When handling, bear in mind that wood composite boards may be heavier than treated pine or some exotic hardwoods. During installation, avoid leaving the pallet in full sunlight to avoid expansion variations.

RECYCLING AND END OF LIFE

Consult the decking building code in force in your municipality prior to installation.

SILVADEC® wood composite is not a conventional product. Please notify your insurer.

Silvadec SAS disclaims responsibility and voids its guarantee in the event of failure to follow the instructions above or if fastener clips or accessories from other manufacturers are used.

The colour of Elegance and Emotion boards will change in the first weeks following installation. This means additional boards ordered subsequently may have a different appearance to the installed decking. This difference will fade over time. Nevertheless, differences in colour may persist between one board and another, or between different batches, since the wood used in production comes from various sources. Similarly, the colours and finishing of samples we provide are not contractually binding.

Deck boards are guaranteed against structural damage from the action of termites and moulds: for 25 years for residential use and for 10 years for public or commercial use. This guarantee is limited to the supply of replacement boards.

As with all household waste, it is forbidden to burn wood composite in the open air. We also strongly advise against using wood composite as fuel for boilers or barbecues. Burning wood composite produces a significant quantity of clinker. Consult the decking building code in force in your municipality prior to installation.