

THERMORY®

THERMORY® decking products undergo an intense thermal modification process that makes the wood more durable and stable in outdoor conditions while emphasizing its warm golden-brown color and characteristic wood pattern. Using the correct installation and maintenance techniques will result in the most beautiful and long-lasting decking.

These installation guidelines are purely informative and based on the best knowledge currently available, and they should be used accordingly. We advise you to follow the regulations of your country where they conflict with the general recommendations found in this guide.

Installation Guide

1. Storage
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 - 4.4. PaCS® (Press and Click System)
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1. Storage

Whenever possible, Thermory decking boards should be stored inside. The decking should be kept away from sunlight as UV rays will cause the color to fade. If kept outside, the boards should be elevated at least 150 mm from the ground, stacked evenly, and protected with a waterproof, light-impermeable cover. Leave the ends of the cover unfastened to provide ventilation while

avoiding moisture damage. Thermory decking should never be left in the rain or exposed to excess moisture when in its original packaging, as it will not dry properly when tightly packaged. If possible, store the boards at the installation site for a few weeks prior to installation to allow them to acclimatize to the moisture conditions, using a protective cover to prevent moisture damage.

2. Building a proper substructure and avoiding moisture damage

IMPORTANT!

Check the boards thoroughly for possible manufacturing and moisture defects, as well as transport-related damage prior to installation, and never install defective boards. **ONCE INSTALLED, PRODUCTS ARE DEEMED TO HAVE BEEN ACCEPTED IN TERMS OF QUALITY.**

Handle Thermory thermally modified boards with care. The tongue-and-groove sections of boards may be fragile.

Allow for 10 percent wastage when purchasing.

SUBSTRUCTURE

Thermory decking must be laid on leveled joists.

The maximum recommended space between joists is 400 mm.

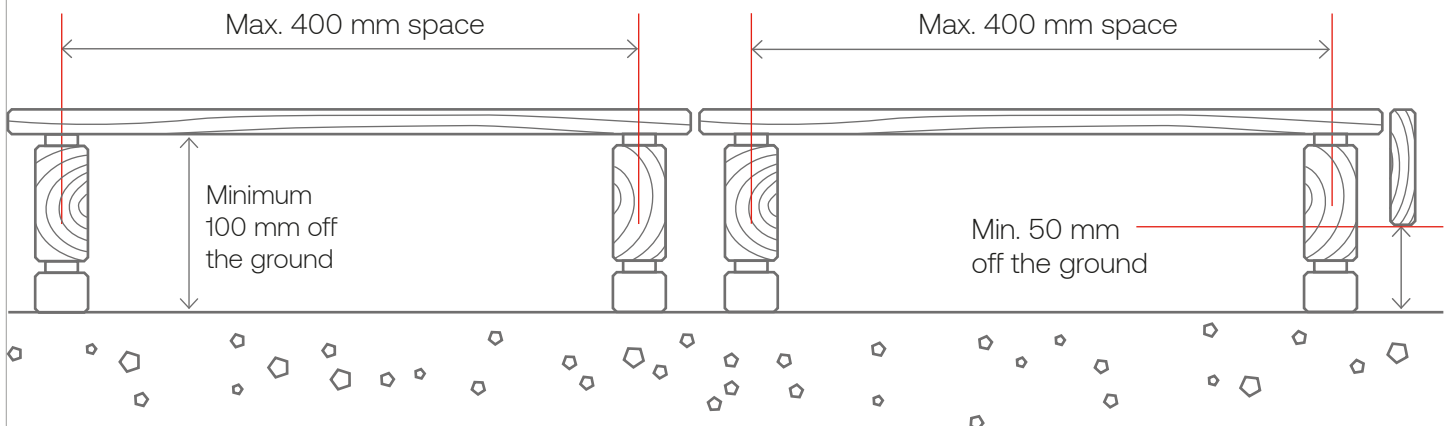
WATCH THE INSTALLATION VIDEO



We recommend using Thermory Benchmark thermo-spruce, thermo-pine or metal joists – this will ensure that your joists last as long as your decking.

When connecting two boards lengthwise, make sure that the ends of both boards are laid on separate joists if the width of the joists is less than

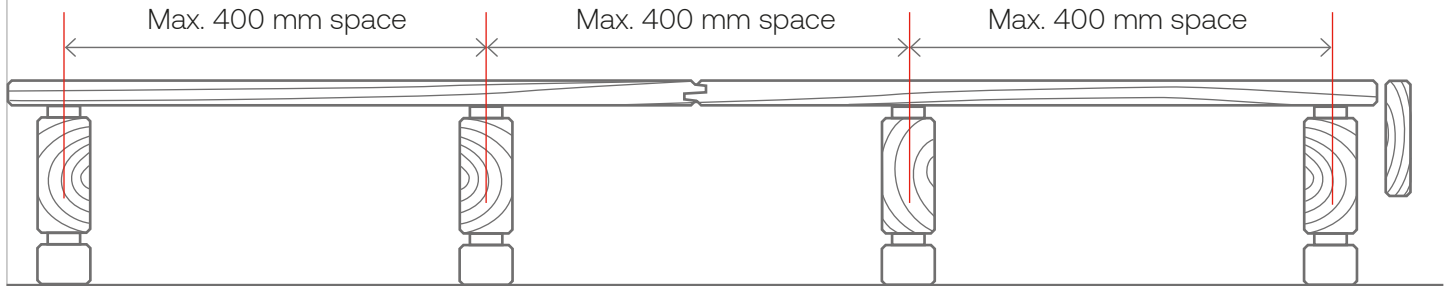
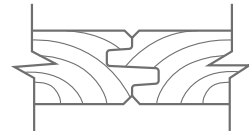
80 mm (as shown in the Thermory decking installation video); otherwise the fixings will be placed too close to the ends of the boards.



END-MATCHING JOINTS

With Thermory's exclusive JEM™ Joint, the ends of the boards do not need to rest on the support joists. This creates less waste, reducing labor costs and

shortening the installation time. Each board must rest on and be fastened to a minimum of two joists.



AVOIDING MOISTURE DAMAGES

Good drainage is essential in order to direct water away from the structure. Make sure the ground beneath your decking is at a sufficient angle to avoid water pooling.

It is important that air can circulate underneath the decking. Do not allow moisture to become trapped beneath it.

Decking boards should lay at least 100 mm above the ground. The best practice is to shim the joists to allow air circulation and drying.

The ends and sides of the Thermory deck must be left open to allow air circulation. When using skirting boards, install them with air gaps and leave a space of at least 50 mm from the ground. When the decking is next to a wall, we suggest leaving a gap of at least 20 mm between the wall and the decking.

Wood must not be in direct contact with wood. When installing decking boards with screws, use spacers or distance strips to leave approximately 4-8 mm between the boards and the joists. This will minimize trapped moisture and mold or fungi development.

To avoid moisture damages from screw holes, we suggest using Thermory's hidden installation clips.

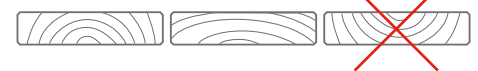
We suggest covering the top of the joists with UV-resistant decking tape to avoid moisture damage.

Leave a 4-mm air gap between decking boards up to 112 mm, and a 6-mm gap for wider boards. Leaving a sufficient air gap between the decking boards helps to prevent swelling due to trapped moisture.

When installing Thermory decking boards without end-matching (with no JEM joint), leave a space of approximately 3 mm between board ends. This allows for air circulation and prevents swelling due to trapped moisture.

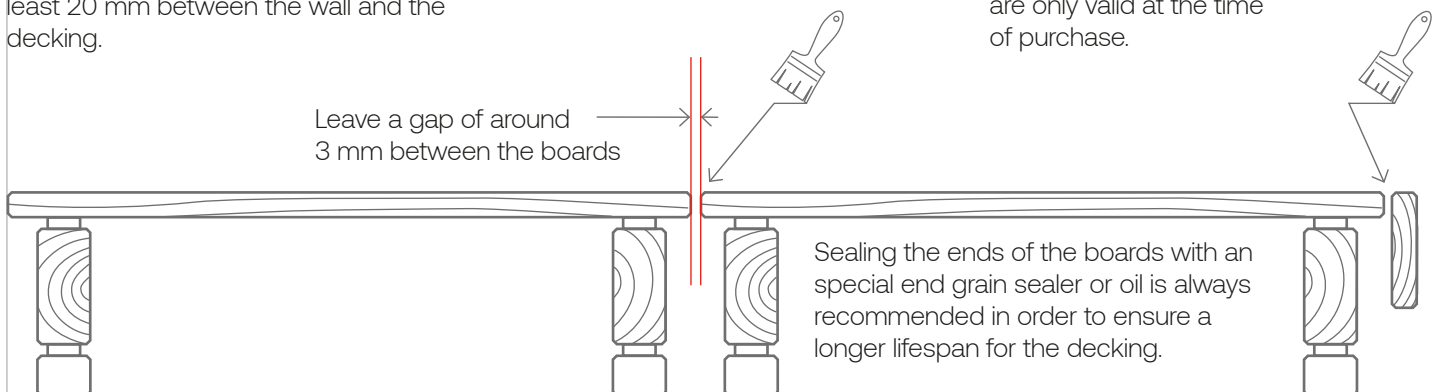
For thermo-spruce decking, make sure that the heartwood side of the board is placed face down. When installing thermo-pine decking, we recommend keeping the nicer-looking side facing upwards.

SPRUCE HEARTWOOD DOWN



Please note that the formation of splits and cracks on the surface of the wood and changes to its shape and dimensions caused by air humidity is a natural process, therefore board specifications are only valid at the time of purchase.

Leave a gap of around 3 mm between the boards



Sealing the ends of the boards with a special end grain sealer or oil is always recommended in order to ensure a longer lifespan for the decking.

3. Installation with screws

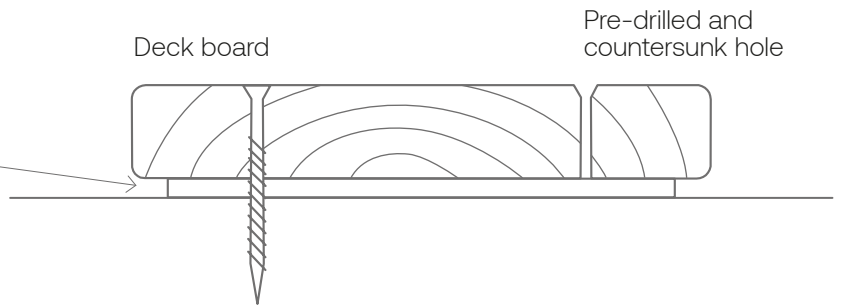
Always use **stainless-steel** screws for installing Thermory decking boards.

When installing Benchmark **thermo-ash** decking, pre-drilling is required in order to avoid cracking – countersinking the pre-drilled hole is a must. The pilot hole should be 1 mm larger in diameter than the screw itself, to allow for any necessary board movement and prevent shear stress on screws.

Benchmark **thermo-pine** can be installed using self-tapping screws. Be sure to set the power drill's clutch to the appropriate medium setting. The head of the screw should sit flush with the surface of the board.

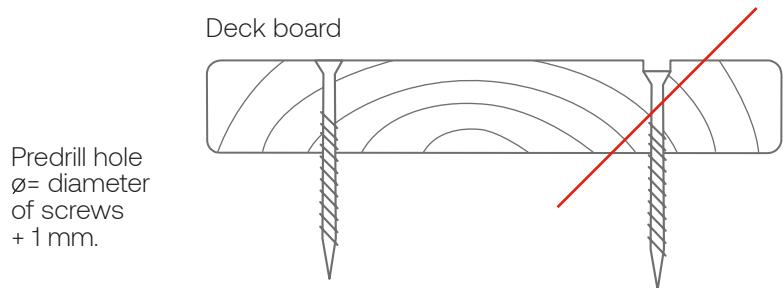
For Thermory Benchmark profiles: D1, D3-A, D3-2, D4, D15 R3, D11, D30, D48, D5

Use spacers to elevate decking boards from joists to create an air gap of 4-8 mm between the decking and joists.

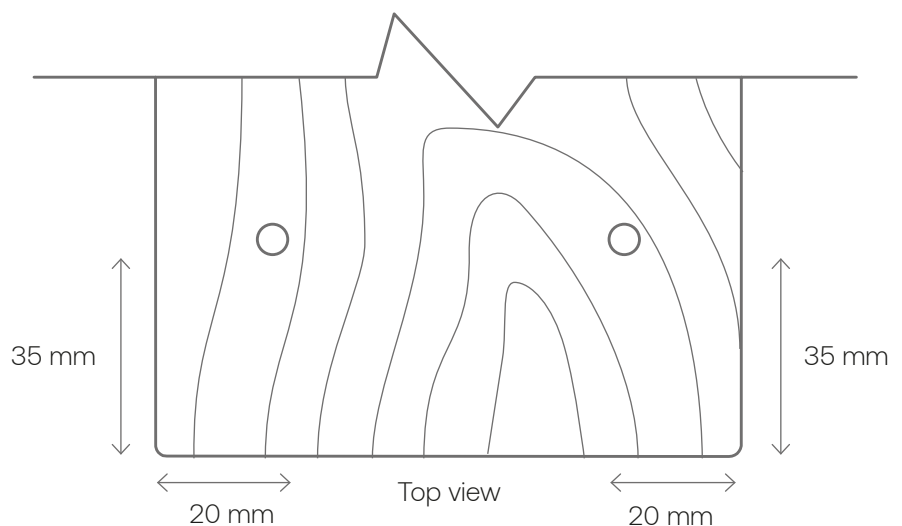


IMPORTANT!

The screw heads must not penetrate too deeply into the wood. They should fit snugly and be roughly level with the wood surface in order to reduce the risk of water absorption. In addition, driving the screw too deep into the wood can split the decking board and strip the fiber off the wooden joist, as well as cause the board to fracture around the screw head and squeak excessively.



When screwing through the face of the boards, leave a distance of approximately 20 mm from the edges and at least 35 mm from the ends to avoid splitting.



4. Installation systems for hidden fixing

4.1 STAINLESS-STEEL T-4 AND T-6 CLIPS

All hidden installation system clips must be screwed to every joist to prevent damaging boards due to excessive span.

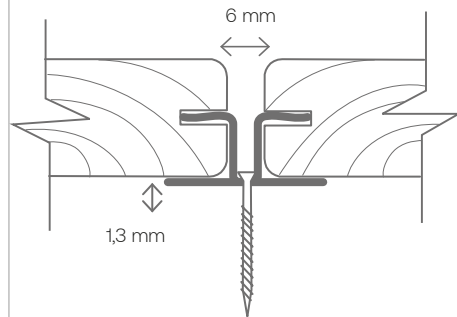
Thermory black-coated stainless-steel T-4 clips leave a 4-mm gap between decking boards, and T-6 clips leave a 6-mm gap. Both clips leave a gap of 1.3 mm beneath the decking board to avoid wood-to-wood contact.

FOR THERMORY DECKING PROFILES WITH sg2 SIDE-GROOVE:	BENCHMARK THERMO-ASH	
	T-4 clip for D4 sg2 board with widths of up to 112 mm	T-6 clip for D4 sg2 boards wider than 112 mm

Pre-drill and then face screw the outside edges of the first and last decking boards using stainless-steel screws.



We recommend using spacers or distance strip under the clip to provide additional ventilation beneath the boards. We suggest covering the top of the joists with UV-resistant decking tape to avoid moisture damage.

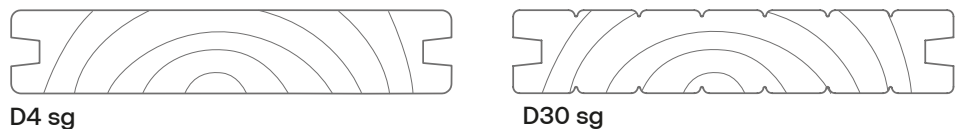


	REQUIRED NUMBER OF T-4 OR T-6 CLIPS (WITH SCREWS):	WATCH THE INSTALLATION VIDEO
	2.7 clips per linear meter of decking board. Clips per wholesale packaging: 500 pcs, including screws + drill bit	

4.2. PC CLIP

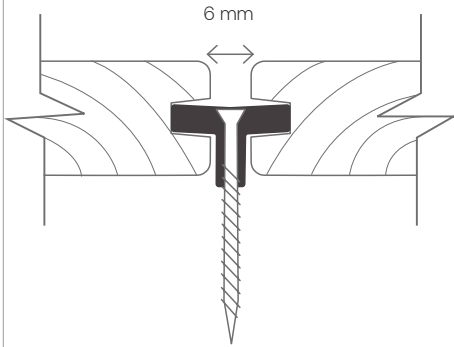
FOR THERMORY 26MM PINE AND SPRUCE DECKING WITH sg SIDEGROOVE:	Benchmark thermo-pine D4 sg, D30 sg	Benchmark and Kodiak thermo-spruce D4B sg
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Thermory black plastic PC clips leave a 6-mm distance between the boards. The PC clip is made from a UV and water-resistant material that is optimized for outdoor conditions.





We recommend using spacers or distance strip to provide additional ventilation and avoid wood-to-wood contact beneath the boards. We suggest covering the top of the joists with UV-resistant decking tape to avoid moisture damage.



REQUIRED NUMBER OF PC CLIPS (WITH SCREWS):

3 clips per one linear meter of decking board. Clips per wholesale packaging: 500 pcs, including screws + drill bit.

At end joint make sure to use one separate clip for both ends of the boards

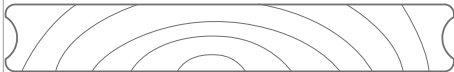
WATCH THE INSTALLATION VIDEO



4.3. TENI® CLIP

FOR THERMORY DECKING PROFILES:

Benchmark thermo-ash D31, D32, D34, D38, D41



D31



D41



D34



D32



D38



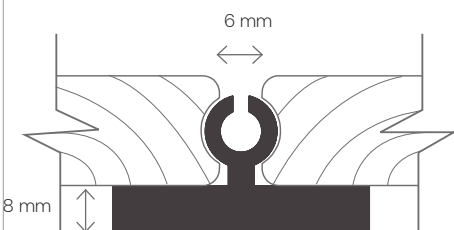
TENI clips are made of a UV and water-resistant material (polyoxymethylene) that is optimized for outdoor conditions. The clips leave a 6-mm gap between the boards.



The 4.2 x 45 mm stainless-steel screw is included with the clip and is suited to timber and RELO T aluminum joists. With any other aluminum joists, it is necessary to either use special self-tapping screws or drill pilot holes.



The clip thickness provides an 8-mm distance between the board and the joist and prevents wood-to-wood contact to ensure the required ventilation.



REQUIRED NUMBER OF TENI CLIPS (WITH SCREWS):

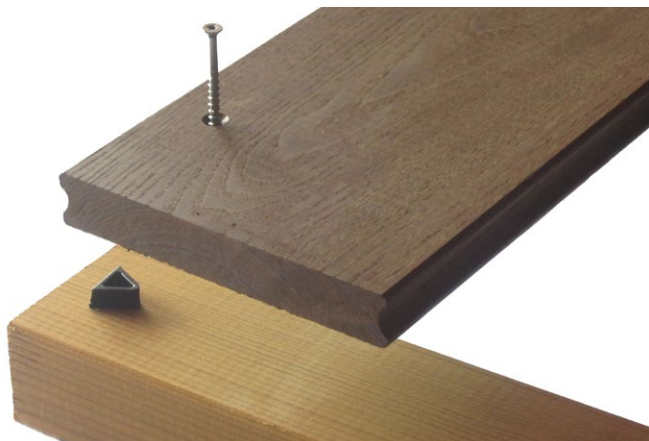
3 clips per one linear meter of decking board. Clips per wholesale packaging: 100 pcs, including screws

Use ONE triangle-shaped corner for decking boards up to 120 mm wide.

Use TWO triangle-shaped corners for decking boards wider than 120 mm.

Pre-drill and then face screw the outside edge of the first and last rows of boards using **stainless-steel screws**.

1. Upon installation, remove the triangular corner of the clip – use this corner to achieve a consistent height for the first and last rows of boards.



2. Place the TENE® clip under the board and press firmly into the groove.

3. Insert the screw into the hole of the clip and then fasten.



4. Lay the next row of boards. When tightening the next board, ensure there is a 6 mm gap between boards. Fasten the screw.

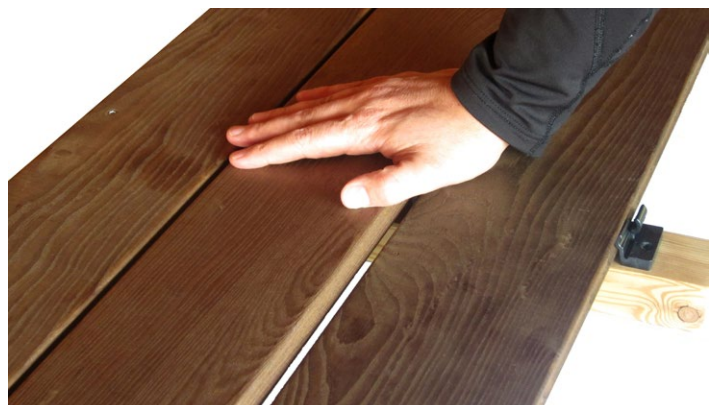
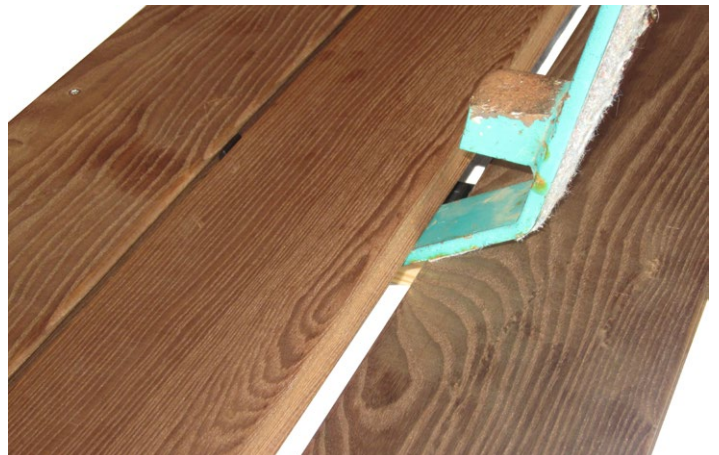


5. When installing two boards lengthwise, make sure that the ends of both boards are laid on separate joists.



- Replacing individual boards fastened with TINI® clips at a later date requires little effort, and the adjacent boards do not need to be removed.

- To remove a single board, you simply need a prying bar. Insert the prying bar between the boards and then carefully lift the board to remove it. You can then click the replacement board into position, or place the original board back if it is undamaged.



WATCH THE
INSTALLATION
VIDEO



4.4. PaCS® (PRESS AND CLICK SYSTEM)



PaCS® product range combines high-quality Thermory thermowood with unique Grad installation system. It is a hidden fastening solution designed for a quick and easy installation. Thermory PaCS consists of specially profiled Thermory boards with grooves on the underside to perfectly fit the Grad® clips or aluminum rails with pre-mounted Grad clips. As a result, there are no visible screw heads – the boards are simply pressed and clicked into place.

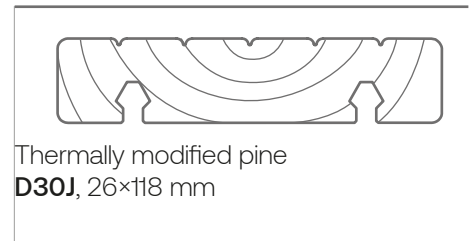
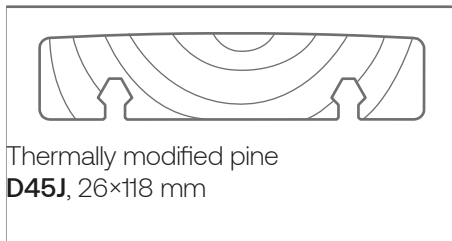
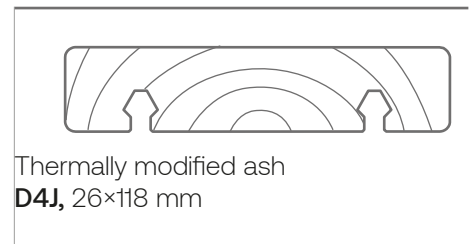
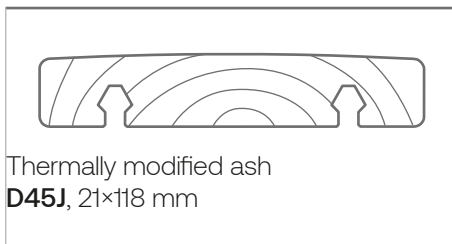
FOR THERMORY DECKING PROFILES:

Benchmark thermo-ash
D45J, D4J

Benchmark thermo-pine
D45J, D30J



The boards click into place when depressed and it's done.



 Decking board D45J has a slightly rounded upper face to allow water to flow away.

PaCS Strip is a fastening solution for PaCS decking. PaCS Strip is a six-clip strip that fixes three boards sideways onto one joist. These strips must be connected together and fixed to the joist, and the decking boards can then be easily snapped onto the clips. The strip will leave a 5-mm gap between the boards, and the clip thickness raises the board 5 mm above the joist to prevent wood-to-wood contact and ensure the required ventilation.

1. After building a proper sub-structure, ensure all rows of clips are in perfect alignment.
2. Install 2-3 PaCS Strips on every batten and check that the alignment is correct to enable you to fit the boards.
3. Install the boards by simply pressing and clicking them into place!
4. Now, repeat steps 2 and 3 until your deck is fully installed. Avoid installing more than the recommended number of PaCS Strips at a time. Installing PaCS Strips to the whole length of a joist at once may result in compromised alignment.

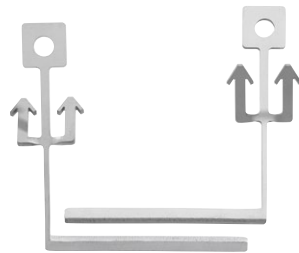


REQUIRED NUMBER OF PACS STRIPS:

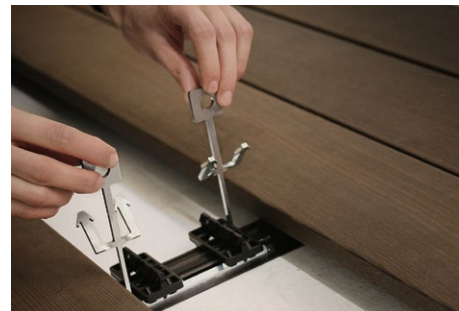
7.5 strips per square meter of decking board including 4x30mm stainless-steel screws + drill bit

Strips per pack: 300 pc, including screws

PaCS Alu Rail 56 and PaCS Alu Rail Start for 118-mm boards are now available to build long-lasting decking, with the option to remove and replace any board at any time while keeping the existing clips.



Special keys for board removal.



PaCS Alu Rail 56

is a load-bearing aluminum joist with pre-mounted Grad clips.

Boards will be raised to a height of 62 mm with PaCS Alu Rail 56 (rail 56 mm + clips 6 mm). PaCS Alu Rail 56 is perfectly fitted with Top Lift pedestals. Ask your Thermory sales representative for the full range of installation accessories including

Top Link linking pieces, crosswise connecting spanners, spanner fixing brackets, the Top Cube skirting board fixing system, rubber strips for under the rails and board removal keys.

ESTIMATED NUMBER OF PACS ALU RAIL 56 JOIST:

1.4 pcs per one square meter of decking

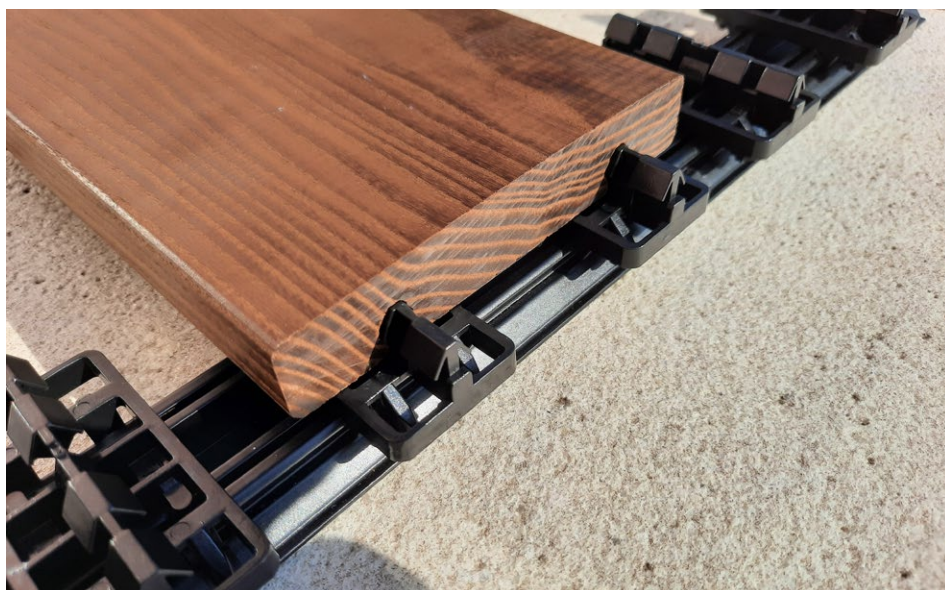
PaCS Alu Start Rail

is a non-load-bearing aluminum joist with pre-mounted Grad clips that can be laid on a flat surface or on wooden joists. The Grad clip raises the board 6 mm from the joist, ensuring the required ventilation. Fix the rail with screws every 500 mm.

PaCS Alu Start Rail raises the boards to a height of 18 mm (rail 12 mm + clips 6 mm).

ESTIMATED NUMBER OF PACS ALU START RAIL JOIST:

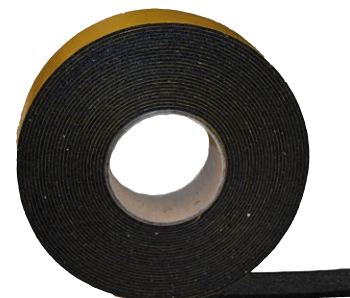
1.4 pcs per one square meter of decking



Ask your Thermory sales representative about installation accessories such as Top Link linking pieces, rubber strips for under the rails and board removal keys.



For lengthwise connection of the PaCS Alu Rails, use the Top Link connection piece in order to maintain a uniform gap between the boards.



We suggest using a 2 to 4-mm rubber strip under the rail.

WATCH THE INSTALLATION VIDEO



5. Decking maintenance

After installing your decking, it's important that you keep the surface free of leaves, needles and other moisture-retaining debris that can promote mold.

LIKE ANY OTHER WOOD, THE SURFACE OF THERMORY PRODUCTS NATURALLY TURNS GRAY OVER TIME.

This process starts immediately after the products are installed and takes anything from a few months to a few years, depending on the intensity of UV radiation.



Thermory Benchmark thermo-ash decking, aged and unoiled.



To reduce discoloration or restore a dark color, Thermory boards can be protected by coating them with a UV-resistant pigmented mineral oil. The use of organic oils is not recommended outdoors or in damp rooms, as they contain substances that provide a source of nutrition for biological organisms, such as bacteria, mold, etc.



If you want the wood to turn gray over time while delaying any cracking, finish the wood with a colorless oil.



Thermory Benchmark thermo-pine decking, aged and unoiled.

CLEANING THERMALLY MODIFIED WOOD



Thermally modified wood can be washed with a wood cleaner and warm water. Larger dirt particles can be removed mechanically (e.g. with a washing brush).



For rinsing, it's a good idea to use a garden hose with a spray nozzle in a soft shower setting; test on a small area beforehand. A strong jet of water can damage the wood material and result in an uneven appearance.



Please follow the Thermory Maintenance Guide for more detailed tips.

WATCH
THE MAINTENANCE
VIDEO



WATCH THE
CLEANING
VIDEO



6. Prolonging the service life of your deck

The correct installation and maintenance practices are important for a beautiful and long-lasting deck. Please carefully follow the requirements in this guide and remember

that wood is a natural material that will always react to external conditions. A properly stored, installed and maintained deck will withstand your local weather conditions better.

STORAGE AND WAREHOUSING

Whenever possible, decking boards should be stored inside, protected from sunlight and water. If kept outside, the boards should be elevated at least 150 mm from the ground, stacked evenly and protected with a waterproof, light-impermeable cover. Leave the ends of the cover unfastened to provide ventilation.

For a few weeks prior to installation, store the boards at the installation site to allow them to acclimatise to the moisture conditions there, using a protective cover to protect them from rain. Measure and record the relative humidity (RH) and temperature at the installation site during storage and again during installation.

INSTALLATION

Measure and record the balance moisture of each board before installation and only install the boards if the reading is similar for all of them. Boards with significantly different moisture levels will dry differently, leaving uneven gaps between them.

The ends of the boards should always be finished with a special wax or oil.

Good drainage is essential for draining water away from under the deck. Make sure the angle of the ground beneath the decking is sufficient to avoid water pooling.



The deck should not be built too close to the ground. Please follow the requirements in the guide.



Avoid direct contact between decking boards and battens. Add spacers or use hidden installation clips from Thermory. Leave gaps in between and at the edges of the boards as recommended in the guide to allow for ventilation and leave space for the wood to swell.



Do not build up the sides of the deck. Proper ventilation will ensure longevity.



Use only stainless steel screws or staples to install Thermory decking boards.



Screw heads must remain flush with the deck. A screw head that is driven too deep into the board will leave a hole in the deck where water will accumulate and cause moisture damage.



In the case of thermo-spruce decking boards, the wood core must remain downwards



Defective boards that have already been installed are not covered by the warranty. Before installing each board, ensure that the product is not too damp and free from mechanical, visual or aesthetic defects.



The warranty is not valid for incorrectly installed decking boards. Please follow the requirements in the guide.

MAINTENANCE



Keep the finished deck surface clean of leaves, branches and other moisture-containing debris that can promote premature decay.



A regularly cleaned and oiled deck will withstand weather conditions better.



Do not leave flower pots or other items standing on the deck for a long time, as the moisture accumulating beneath them will contribute to the development of moisture damage.

PLEASE CONSIDER THE FOLLOWING



Wood is a natural material that reacts to external conditions; it swells when wet and shrinks when dry. This causes surface cracks to appear in the wood, including some splitting at the ends of the boards.



Surface cracks appear within a month of installation and are more visible in dryer weather. The gaps will slowly develop and increase in size throughout the lifetime of the deck, but this will not prevent it from being used.

