

Green Plank® Composite Decking Installation Guide

Installation guide for TerraTuff™ capped solid decking, Nordeka™ solid decking, Classic™ hollow decking and Sapphire™ hollow decking

Residential and commercial/project applications - Nordic and European climate conditions

1. Scope and covered products

This guide applies to genuine Green Plank® composite decking products installed outdoors as decking, terrace flooring, balconies, roof terraces, garden decks, boardwalk-type residential paths and similar horizontal walking surfaces. It covers:

- TerraTuff™ capped solid decking - capped walking surface, premium residential/commercial use.
- Nordeka™ solid decking - uncapped solid composite decking.
- Classic™ hollow decking - uncapped hollow composite decking.
- Sapphire™ hollow decking - uncapped hollow composite decking.
- Green Plank fascia boards and trims, capped and uncapped, nominal 10 x 80 mm.
- HidLoc™ original start/end clips, plastic clips, steel/stainless clips, screws, end caps and related approved accessories.

Not a structural member

Green Plank decking boards, fascia boards, trims and composite joists are not primary structural members and must not be used as beams, load-bearing joists, columns, posts, stringers or guardrail supports. The load-bearing structure must be designed and built in accordance with local building codes and project requirements.

2. Critical installation rules - do not skip

No.	Rule	Requirement
1	Check before installation	Check model, colour, quantity, profile type, batch, visible damage and visible defects before cutting or installing. Visible defects accepted by installation are not product claims.
2	Use original fixing system	Use approved HidLoc clips, start/end clips and stainless/approved screws. One clip at every joist. Do not mix incompatible fastener systems.
3	Do not trap movement	Composite boards expand and contract. Never install boards tight end-to-end, tight to walls, tight around posts or locked at both ends.
4	Support every board end	Every board end, butt joint, mitre, picture-frame edge and cut end must be fully supported by a joist/blocking. Butt joints require double joists or separate support for each board end.
5	Keep ventilation and drainage open	Do not install directly on soil, directly on concrete, directly on waterproofing, or inside a sealed frame with no airflow. Water must drain away.
6	Respect slope	Minimum Green Plank slope is 1 mm per metre away from the building. For hollow boards, slope is mandatory and must follow the board/cavity drainage direction.
7	Use correct spans	600 mm c/c is a residential maximum for perpendicular installation only. Commercial, diagonal, stair and high-load areas require closer support.
8	Pre-drill face screws and trims	Always pre-drill fascia, trims, end fixing and screws close to board ends. Do not overdrive screws.
9	Record the installation	Record gaps, joist spacing, slope, ventilation, batch labels and photos before handover. This protects both installer and Green Plank.

3. Product selection and maximum joist spacing

The maximum joist spacing is measured centre-to-centre (c/c) and applies only where the board is installed perpendicular to the joists, with at least three supports per board and with a stable, code-compliant substructure. Use the stricter value where local building rules, project loading, fire/slip classification, stair design or the warranty document requires it.

Product	Residential perpendicular	Commercial/project perpendicular	Diagonal/pattern/picture frame	Stairs	Notes
TerraTuff™ capped solid decking	600 mm c/c max.	400 mm c/c max.	400 mm c/c max. or closer	300 mm c/c max.	Preferred product for high exposure and commercial use.
Nordeka™ solid decking	600 mm c/c max.	400 mm c/c max.	400 mm c/c max. or closer	300 mm c/c max.	Solid uncapped board. Natural colour maturation is normal.
Classic™ hollow decking	600 mm c/c max.	350 mm c/c max.	300-350 mm c/c max.	300 mm c/c max.	Slope and open cavity drainage are mandatory.
Sapphire™ hollow decking	600 mm c/c max.	350 mm c/c max.	300-350 mm c/c max.	300 mm c/c max.	Slope and open cavity drainage are mandatory.

600 mm c/c residential use

600 mm c/c is the maximum residential spacing, not the recommended spacing for every situation. For a stiffer premium feel, exposed roof terraces, darker colours, public access, heavy furniture, planters, glass reflection, hot tubs, stair areas or weak substructures, reduce joist spacing. Heavy point loads must be checked by a structural engineer.

4. Engineering basis for expansion and contraction

All building materials expand and contract with changes in temperature and moisture, and composite decking is no exception. Because Green Plank® boards contain natural wood fibres and polymer components, small dimensional changes in length, width and thickness are normal and must be allowed for through correct expansion gaps, ventilation, drainage and fixing.

The required short-end gap depends on the board length and the board surface temperature at the time of installation. Always measure or estimate the temperature of the board itself, not only the air temperature.

The recommended reference installation temperature is approximately 20°C board surface temperature. The best installation range is 10°C to 25°C. Boards should be stored in shade before cutting and fixing so that all boards are at a similar temperature.

- Use board surface temperature, not only air temperature, when choosing end gaps. Dark boards in direct sun can be much hotter than the air.
- Boards lying in direct sun before installation may already be expanded. If they are installed hot, the winter/cold gap will become larger. This is normal and must be explained to the customer.
- Do not mix sun-heated boards and shaded/cool boards in the same row. Keep all boards shaded and at similar temperature before cutting and fixing.
- Expansion/contraction is normal material behaviour and is not a product defect when the guide is followed.

Green Plank design movement rule

For installation design and claim prevention, use a practical movement allowance of up to 1 mm per linear metre of board length unless product-specific test data and written Green Plank instructions allow otherwise. The gap tables below convert this rule into installation requirements for Nordic climate conditions.

Minimum short-end gap between board ends

Board length	Practical maximum length movement allowance
2.4 m	Up to approx. 4 - 5 mm
3.6 m	Up to approx. 6 - 8 mm
4.8 m	Up to approx. 8 - 10 mm
6.0 m	Up to approx. 10 - 12 mm

For board lengths between the listed sizes, use the next higher board length category. For butt joints between two different board lengths, use the gap required for the longer board.

Boards that have been stored or laid in direct sunlight may already have expanded before installation. Do not install sun-heated boards directly from the stack. Move them into shade, allow them to cool and stabilise, and install only when all boards are at a similar temperature. If the board surface temperature is above 35°C, installation should be postponed or the boards should be cooled in shade before cutting and fixing.

Never install boards tight end-to-end or tight against walls, posts, thresholds, frames, drainage outlets, masonry, metal edges or other fixed objects. Maintain minimum perimeter clearance of 20 mm to fixed structures unless otherwise specified by Green Plank in writing.

Short-end joints must be supported by double joists or a suitable breaker-board/detailing arrangement. Do not allow two board ends to share one narrow joist without proper support and fixing clearance. Boards must be free to move; do not rigidly lock the same board at both ends.

5. Required gaps - quick reference

5.1 Side-to-side gaps between parallel boards

Fixing method / location	Required side gap	Use condition
HidLoc Plastic clip	5-6 mm	Default and preferred for residential decks, hollow boards, roof terraces, shaded/wet areas and where drainage/cleanability is important.
HidLoc Steel/stainless clip	3-4 mm	Allowed only where the clip is approved for the board profile and the deck has open drainage and ventilation. For commercial, wet, shaded, roof or hollow installations, 5-6 mm is safer.
Docks, high moisture, heavy shade, trees, roof/sleeper systems	Use 5-6 mm minimum; increase drainage openings where needed	Narrower gaps hold dirt and organic matter and increase cleaning and claim risk.

Side gaps are not decorative only

Side gaps provide drainage, ventilation, cleaning access and width movement. Do not force boards tighter than the clip allows and do not fill side gaps with silicone, sealant, adhesive or dirt.

5.2 End-to-end gaps between board short ends

Use this table for butt joints, breaker-board details, board end-to-board side joints, and picture-frame end gaps. Gap is the clear opening measured at the time the board is fixed. Use the longer board length if two different lengths meet. For special projects, very dark colours, strong reflected heat, roof terraces or public/commercial locations, use the next larger gap value.

Board length at butt joint	Cold board <=5 degC	Normal board 6-20 degC	Warm board 21-35 degC	Hot/sun-heated board >35 degC
2.4-3.0 m	6 mm	5 mm	4 mm	3 mm minimum
3.1-4.0 m	8 mm	6 mm	5 mm	4 mm
4.1-5.0 m	10 mm	8 mm	6 mm	5 mm
5.1-6.0 m	12 mm	10 mm	8 mm	6 mm

Answer to the 5 mm gap question

A 5 mm end-to-end gap is not valid for all board lengths and all temperatures. It is acceptable only for shorter boards in normal/warm conditions, or for longer boards already warm/hot as shown in the table. For 5-6 m boards installed cold or normal, 5 mm is not enough.

If boards have been lying in the sun

Best practice: move the boards into shade and allow them to reach a uniform temperature before cutting and fixing. If installation must proceed while boards are sun-heated, use the hot-board column above, never install tight, and inform the customer that gaps will open more in colder weather.

5.3 Gaps to walls, posts and fixed objects

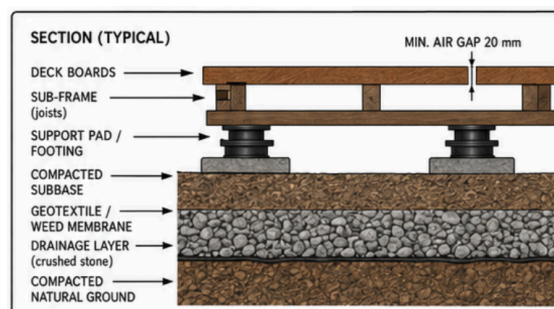
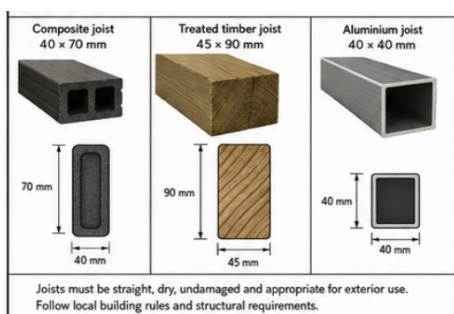
Location	Required clearance
Decking board end or side to wall, facade, post, pipe, drain, stair stringer, kerb, railing base or other fixed object	Minimum 20 mm
Substructure joist end to wall or fixed object	Minimum 20 mm

Around penetrations/notches	Minimum 10 mm all around; more if needed for drainage and movement
Large deck surface in board length direction	Use a breaker/separation joint at max. 6 m; for roof/commercial/hot/dark exposure, max. 4.8 m is recommended

6. Storage, acclimation and cutting

- Store boards flat on a dry, level base with supports aligned. Do not store bowed, twisted or unsupported.
- Keep products under cover or covered with opaque material. Do not use clear plastic that creates heat build-up.
- Allow boards to acclimate on site before installation. All boards in one area should be at similar temperature.
- Cut and install as soon as practical after final measurement. Do not cut in hot sun and install the next cold morning without rechecking length and gaps.
- Use carbide-tipped wood/composite blades. Cut outdoors or in a ventilated area. Wear eye, hand, hearing and dust protection.
- Always pre-drill face screws, fascia screws, trim screws and screws close to board ends. Pre-drilling reduces cracking and mushrooming.

7. Substructure and foundation



7.1 Approved joist types

Joist type	Use	Key requirements
Green Plank composite joist 40 x 70 mm	Sleeper/sub-framework only. Not a free-spanning structural joist.	Must be supported on pads/slabs/pedestals at max. 400 mm clear spacing unless written engineering confirms otherwise. Do not place directly in soil or standing water.
Treated timber joist 45 x 90 mm	Structural joist where designed to local code.	Use suitable outdoor timber class for Nordic climate, straight and dry enough for decking. Tops must be in one plane. Use joist tape only where it does not trap water against the deck board.
Aluminium joist 40 x 40 mm	Structural/sleeper joist only where wall thickness, alloy and span are designed for the load.	Use compatible stainless/self-drilling fasteners and isolate dissimilar metals where required. Provide drainage under joist and prevent galvanic corrosion.

7.2 Foundation requirements

Foundation	Requirement
Natural ground	Remove organic soil as needed, install geotextile, compact frost-stable crushed stone, add levelling gravel and support slabs/pads. Water must drain away from the deck.
Concrete slab / balcony slab	Concrete must be sound, sloped and drained. Use rubber pads or spacers so joists do not sit in standing water. Do not trap water under joists.

Roof terrace / waterproof membrane	Do not puncture or damage waterproofing unless designed and approved. Use protective mats/pads and removable sections where access is needed. Follow roof/waterproofing supplier requirements.
Low-height sleeper deck	Minimum 40 mm free airflow height under the deck is required; more is strongly recommended. Ends and sides must remain open enough for cross-ventilation and cleaning.

- The substructure must be flat and in one plane. Deck boards follow the shape of the joists; uneven joists create waves and stress.
- Do not lay decking directly on concrete, waterproofing, asphalt, gravel, soil, old decking or insulation.
- Do not fill the space between joists with soil, insulation, mortar, sealant or debris.
- Provide blocking at butt joints, board ends, picture frames, stairs, mitres and all perimeter details.
- Paint or cover visible joist tops dark only if compatible with the joist material and it does not trap moisture.

8. Drainage and slope

Board / location	Slope requirement
Solid boards - TerraTuff™ and Nordeka™	Minimum Green Plank requirement: 1 mm per metre away from building. Slope is optional only where the deck is fully open-drained, well ventilated and water cannot pond. Recommended best practice: 5-10 mm per metre where design allows.
Hollow boards - Classic™ and Sapphire™	Minimum 1 mm per metre is mandatory and must be integrated into the construction. Board cavities must drain to open ends and must not hold water. Recommended best practice: 5-10 mm per metre where design allows.
Roof terraces, shaded decks, public/commercial decks, tree-covered areas	Use a positive slope and open drainage. Increase cleaning access and avoid narrow, dirt-holding gaps.
Direction	Slope must direct water away from the building and away from places where it can freeze, pond or enter hollow board cavities.

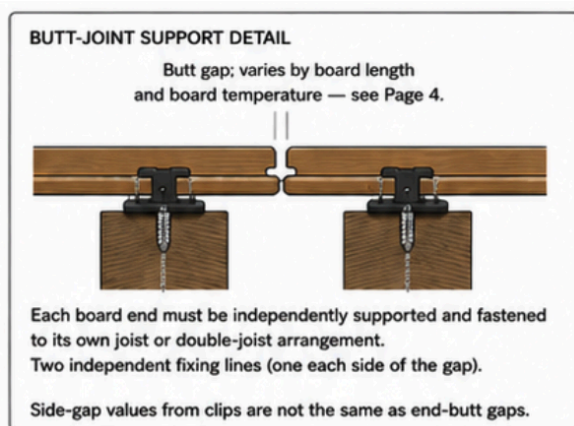
Example

A 5 m deep deck requires minimum 5 mm total fall under the Green Plank minimum rule. Where possible, especially for hollow boards and exposed Nordic conditions, a greater fall is better for drainage and claim prevention.

9. Installing the decking boards

- Set the first board straight. Use start/end clips at every joist along the first board.
- Use one approved clip and screw at every joist intersection. Do not skip joists.
- Keep screws perpendicular unless the clip manufacturer specifically requires another angle.
- Drive screws flush. Do not overdrive. Overdriven screws reduce holding strength and can crack the profile.
- Each full-length board should have one controlled fixing/locking point near the board midpoint, or as directed by the Green Plank clip system, to reduce board walking. Do not rigidly lock both ends.
- Every board must be supported by at least three joists/support lines.
- Cut ends must be square unless a planned mitre or detail is used. Check factory ends and trim square if needed.
- Boards must not be forced together. Clips set the side gap; end gaps must be measured separately.

9.1 Butt joints and breaker boards



- Butt joints must always be installed over double joists or separate blocking so each board end has its own support and its own fastener/clip.
- Do not place two board ends on one narrow joist with one shared fastener. This is a common cause of end lifting, cracking and claims.
- Do not toe-screw board ends. If visible screws are used, pre-drill and keep screws at least 25 mm from the end and edge, or follow the approved screw supplier instruction if stricter.
- For long runs, use breaker boards instead of random butt joints wherever possible. Breaker boards make expansion gaps intentional and easier to maintain.
- End gaps must follow Section 5.2. Do not install tight butt joints, tight mitres or tight picture-frame ends.

9.2 Overhang limits

Board / location	Maximum overhang
Solid boards - TerraTuff™ / Nordeka™	Maximum 50 mm beyond last full support, unless a project engineer and Green Plank written instruction allow more.
Hollow boards - Classic™ / Sapphire™	Maximum 30 mm beyond last full support. Do not leave hollow board ends unsupported at walking edges.
Stairs, landings, public edges, heavy-use edges	No unsupported decorative overhang unless designed and supported. Use closer blocking.

10. Product-specific rules

10.1 TerraTuff™ capped solid decking

- Install capped walking surface facing up and in the required direction/appearance orientation.
- Do not sand, plane, router, grind or chemically strip the capped surface.
- Protect capped surface from concrete dust, metal dust, welding/grinding sparks, oil, paint and construction debris during installation.
- Cut ends are not capped and must still be gapped, supported and detailed so they are not permanently wet or trapped.

10.2 Nordeka™ solid decking

- Install with the intended walking surface up and maintain the required gaps.
- Natural colour maturation, slight colour variation and water marks from natural fibres can occur and are not installation defects.
- Solid boards are more forgiving than hollow boards but still require open drainage, ventilation and expansion gaps.

10.3 Classic™ and Sapphire™ hollow decking

- Hollow boards must be installed with slope and with cavities able to drain and ventilate.
- Do not seal hollow cavities watertight with silicone, foam, adhesive or non-vented trim. Trapped water may freeze, stain or deform the profile.

- Use Green Plank approved end caps only where they do not block drainage. If end caps are used, leave drainage/ventilation paths as directed by Green Plank.
- Hollow board cut ends and edges must be fully supported and protected from impact.
- Use closer joist spacing for stairs, diagonals, commercial use, roof terraces and high traffic areas.

11. Fascia, edge covering and corner finishing

Green Plank fascia boards and trims are decorative finishing profiles. They are not structural members and must not be used to hold the deck frame together or restrain board movement.

Item	Requirement
Material	Capped and non-capped Green Plank fascia boards, nominal 10 x 80 mm. Capped face must be visible/outward.
Fixing surface	Fix fascia to the outer joist/blocking or prepared backing, not to unsupported decking board ends.
Pre-drilling	Always pre-drill. Use oversized or slotted holes so the fascia can move. Example: 6 mm round hole or approx. 4 x 8 mm slot for a 4 mm screw, unless the screw supplier requires otherwise.
Screws	Use stainless/approved exterior screws. Drive flush only; do not clamp tight. The screw should hold the board but allow small thermal movement.
Fastener spacing	Maximum 400 mm along length. First/last fixing approx. 30-50 mm from the end. For 10 x 80 mm fascia, use a central fixing row or staggered/slot fixing that does not split the profile.
Top/bottom clearance	Leave approx. 5 mm behind/above closed trim interfaces and minimum 10 mm at bottom edge above paving/soil/slabs for ventilation and water escape.
End gaps	Fascia end-to-end and mitre gaps: 8 mm cold, 6 mm normal, 5 mm warm, 4 mm hot. Fixed-object gap: minimum 10 mm.
Ventilation	Do not seal the full deck perimeter with fascia. Leave ventilation openings or use ventilation grilles so air can move under the deck.

- Avoid tight 45-degree mitred fascia corners. Use a controlled shadow gap or a corner trim that covers the movement gap.
- At outside corners, each fascia piece must have its own backing and must not be glued together across the corner.
- At inside corners, leave a visible or covered expansion gap. Do not force the boards tight into the corner.
- For picture-frame borders, support all border boards with blocking and keep end-to-width gaps from Section 5.2.

12. Stairs, ramps and public/high-load areas

- Stairs and ramps must comply with local building codes for structure, slip, rise/run, nosing, handrails and guards.
- Use maximum 300 mm c/c support for stair treads unless written product data allows otherwise.
- Use at least two full boards per tread where applicable and provide continuous support/blocking under leading edges.
- Commercial/public installations require closer joist spacing, more blocking, better drainage, and an inspection/maintenance plan.
- Hot tubs, planters, outdoor kitchens, heavy furniture, wheeled loads, maintenance machines and concentrated point loads require a structural engineer.

13. Roof terraces, balconies and sleeper systems

- The waterproofing designer/roofing contractor remains responsible for membrane protection, drainage, fire separation, wind uplift and inspection access.
- Use protective pads/mats under sleepers or pedestals. Do not damage waterproofing membranes.
- Build removable sections where access to drains, inspection points or waterproofing is required.
- Sleepers must run in the drainage direction and must not create dams.

- Minimum slope must be maintained. For hollow boards, water must not be able to sit inside the cavities.
- Provide more ventilation and larger cleanable openings than on a normal raised deck.

14. What installers must not do

- Do not install visibly damaged, wrong-colour or wrong-profile boards and then claim later.
- Do not install boards tight end-to-end, tight to walls or tight around posts.
- Do not fix boards rigidly at both ends or block movement with fascia/trim.
- Do not install over standing water, soil, grass, old decking or unventilated concrete.
- Do not use non-approved clips, ordinary nails, indoor screws or corrosive fasteners.
- Do not overdrive screws, toe-screw butt joints, or screw too close to board ends without pre-drilling.
- Do not seal hollow board ends watertight.
- Do not use decking as a work platform for masonry, welding, grinding, painting or heavy construction debris.
- Do not exceed the joist spacing stated in this guide or the project-specific engineering design.

15. Installer handover and claim-prevention checklist

Checklist item	Record / confirmation
Project address and date	
Installer/company name	
Product and colour	
Batch/order reference	
Board surface temperature during installation	
Board lengths installed	
End-to-end gaps used	
Side gap/clip type used	
Joist type and spacing c/c	
Slope measured and direction	
Ventilation openings confirmed	
Drainage under deck confirmed	
Butt joints on double joists/blocking	
Fascia gaps and ventilation confirmed	
Photos taken before covering substructure	
Customer informed about normal colour/weathering and seasonal gaps	

16. Disclaimer and local building regulations

The diagrams, tables and instructions in this guide are for standard installation situations and are not a substitute for a project-specific design by a competent professional. Any construction or use of Green Plank® products must comply with applicable local building regulations, zoning rules, fire requirements, slip requirements, structural requirements and safety rules in the country of installation, including Sweden, Denmark, Germany and other applicable markets. Where local law, project specification or engineering design is stricter than this guide, the stricter requirement applies.

Failure to follow this guide, the Green Plank care and maintenance guide, and the applicable Green Plank warranty terms may reduce or void warranty coverage. Green Plank is not responsible for defective design, defective substructure, improper installation, poor drainage, poor ventilation, building movement, excessive loading, incompatible third-party fasteners or failure to comply with local codes.