

# Installation Guideline for Lunawood Decking



# Contents

	<b>Installation Guideline – Foreword</b>	<b>4</b>
<b>01</b>	<b>Tips and considerations</b>	<b>5</b>
01.1.	Working with Lunawood ThermoWood®	6
<b>02</b>	<b>Material handling and storage</b>	<b>7</b>
02.1.	How to store timber on the construction site	8
02.2.	Handle with care	8
<b>03</b>	<b>Site considerations</b>	<b>9</b>
03.1.	Deck height and area	10
03.2.	Usage frequency considerations	10
03.3.	Preparing the base	11
<b>04</b>	<b>Subframe</b>	<b>12</b>
04.1.	Purpose of the subframe	13
04.2.	Ventilation space under the decking	13
04.3.	Building the subframe	14
<b>05</b>	<b>Installation of Lunawood decking</b>	<b>17</b>
05.1.	Fixing system for Lunawood Nordic Softwood decking boards	18
05.2.	Installing decking boards with visible fasteners	19
05.3.	General rules for installing Lunawood decking	20
<b>06</b>	<b>Decking construction details</b>	<b>21</b>
06.1.	Covering the sides of the deck	22
06.2.	Keep decking gapped from water and vegetation	22
<b>07</b>	<b>Maintenance and inspection</b>	<b>23</b>
	Key Points	24
	Legal Disclaimer	25

# Installation Guideline

## Foreword

Lunawood decking is an ecological and chemical-free wood product that retains its shape in all seasons. Its natural look and feel are combined with excellent durability and dimensional stability, even in the most challenging climate conditions. Non-toxic Lunawood decking is safe to use while thermal modification mass reduction makes it easier to handle. Optional hidden clip profiles enable quick and easy installation and create a clean, elegant appearance without visible screws.

Ventilation is key when designing a Lunawood deck. A long-lasting deck requires a proper and continuous ventilation space under the supporting frame. Decking subject to heavy use, such as public installations, should only be built by a qualified professional.

Decking must withstand wear and tear, as well as rain, humidity, and sunlight. However, proper surface treatment and cleaning regularly will ensure your decking retains its beautiful appearance and good condition for many years. Surface treatment also helps to preserve your decking's original color and reduce cracking and splintering typical to wood materials over time. Without treatment, Lunawood gradually turns grey due to UV and weathering. The grey color does not affect the wood's resistance to decay.

This Lunawood Decking Installation Guideline is based on the premium properties of Lunawood and the best practices and research in wood construction. When building your deck, you should always follow local building codes and instructions and take the local circumstances into consideration. For this reason, we recommend working with professionals who know the material and know how to properly install wooden decking. Contact your local Lunawood supplier for comprehensive and up-to-date information.

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# Tips and considerations

01

# 01.1. Working with Lunawood ThermoWood®

## PPE

As with any wood, safe working of Lunawood ThermoWood® requires the use of the following personal protective equipment:

- Protective eye wear
- Dust mask with active carbon filter
- Protective gloves for handling
- Safety footwear
- Hardhat (where applicable)
- Fall protection (where applicable)

## Planing

When working with Lunawood ThermoWood®, set cutter depths as if working with hardwood species. Feed rates should be lower than used for working unmodified wood. Pay attention to feed roll settings and pressure configuration to prevent the risk of cracking the profiles surface.

## Sanding

No additional sanding is required because the surface quality of Lunawood is excellent after planing.

## Sawing

The sawing of Lunawood ThermoWood® does not differ from working with untreated wood.

## Pre-drilling

Pre-drilling fasteners will be necessary to reduce the risk of longitudinal cracks during installation. Pilot diameter must be 0,5Ø – 0,8Ø (Ø = screw diameter).

## Screwing

With visible screws fixing system, fasten screws to the correct depth. The screw head must be flush with the decking profile surface in order to prevent splits, surface staining and moisture traps.

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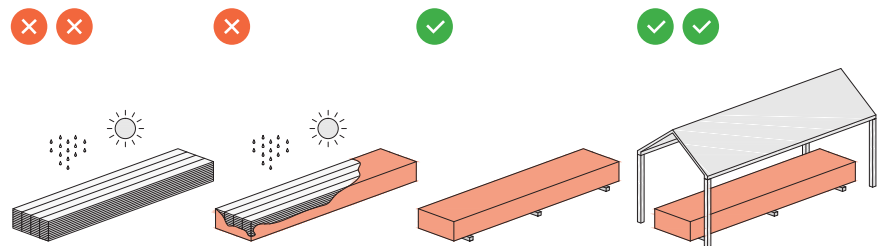
# Material handling and storage

02

## 02.1. How to store timber on the construction site

To preserve the high quality of Lunawood products, the following recommendations must be followed when material arrives on site:

- Store timber in a dry, flat and ventilated place, protected from direct sunlight and precipitation. Due to UV radiation, wood exposed to sunlight may experience a change of color.
- Completely and tightly cover the stored material with UV-protective wraps before and during installation. It is recommended to store Lunawood in its original packaging.
- Lunawood timber packages must be kept ventilated and separated from the ground a minimum of 90 mm high. Use dunnage to promote airflow under the package.
- Material must be stored horizontally on a dry surface with a sufficient number of supports to avoid excessive bending.



## 02.2. Handle with care

Place materials in a secure and stable way to prevent deterioration during storage.

Handle and install the product with care to avoid damage against hard surfaces.

Products must be handled with care to avoid damage during the material unloading and transport. The edges of this type of profiles are delicate points that could be damaged if handled roughly.



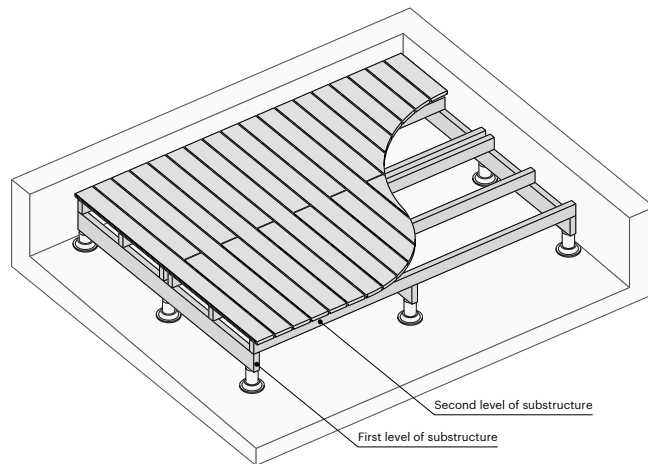
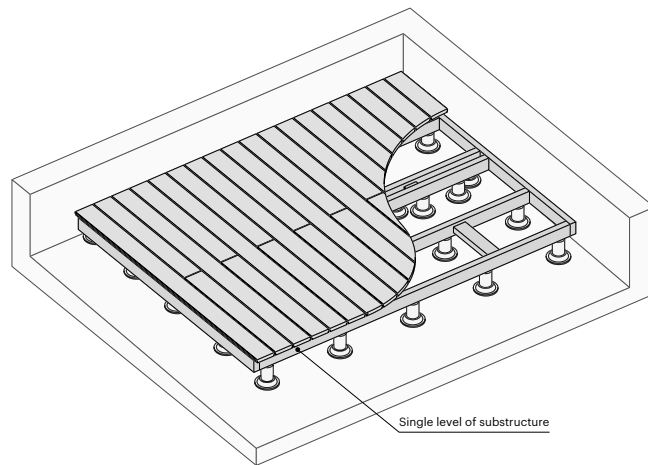
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# Site considerations

03

## 03.1. Deck height and area

Before you start building your deck, consider the available area and height for all the decking components including layout for plumbing and electrical. It will be much more difficult to retrofit utilities around existing structures.



## 03.2. Usage frequency considerations

Considering how much you will use your Lunawood decking is necessary for choosing the right decking boards. Do you intend to use it often or just occasionally?

Frequency of use determines the following general factors which influence the decking design:

- Distance between supports in the ground
- Distance between subframe elements
- Thickness of the Lunawood decking boards

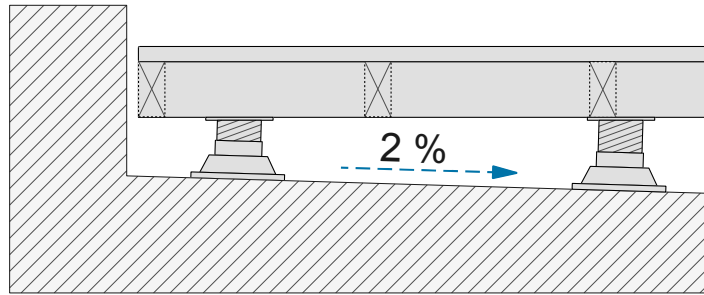
For higher use frequency decks, consider thicker decking and a tighter frame layout.

## 03.3. Preparing the base

Ground clearance and drainage are essential for the performance of any wood product exposed to the elements.

The base must have enough bearing capacity to support the decking and the weight to be applied to it. Natural soil, gravel, sand, cobblestone pavement and concrete slabs are all suitable to use for the base.

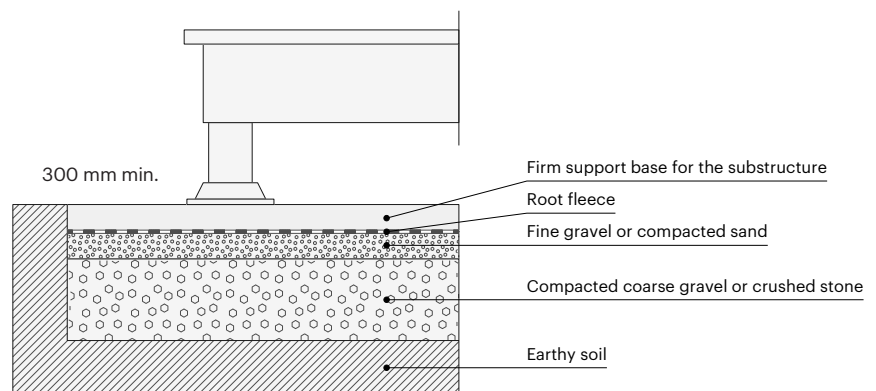
The ground must have a slope of at least 2% to allow for appropriate drainage under the deck. A higher slope may be helpful on impermeable surfaces.



Building your deck on natural soil will require some preparations. To ensure adequate ventilation, the deck area should be at least 300 mm larger on each side than the deck surface itself.

Preparing the ground:

- Remove the topsoil and smooth out the surface.
- Make a small drainage trench to improve water infiltration into the soil.
- Make sure that the base can bear the weight of the decking.
- Make sure that the soil is permeable, insulated from frost and well compacted.
- Lay a ~150 mm thick base layer of compacted coarse gravel or crushed stone.
- Cover base layer with ~50 mm of fine gravel or compacted sand.
- Lay permeable weed barrier to prevent growth under your deck.
- Lay the base for the frame: concrete slab, adjustable supports, flagstones, etc.



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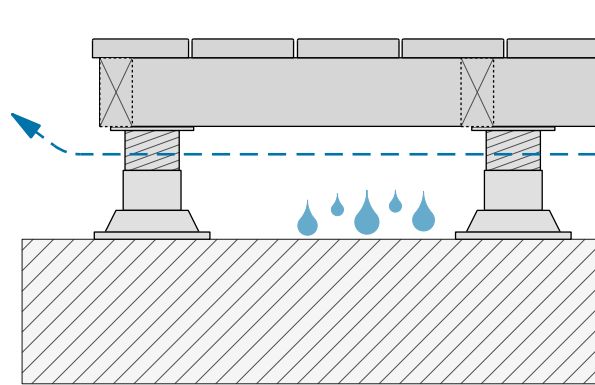
# Subframe

04

## 04.1. Purpose of the subframe

Thoughtful framing will be key to the longevity of your deck. The subframe not only provides support for the deck, but also separates the decking from the ground, allowing for a dry and ventilated cavity under the deck to:

- Keep the wooden decking boards dry
- Prevent moisture uptake from the ground
- Drain rainwater from the decking

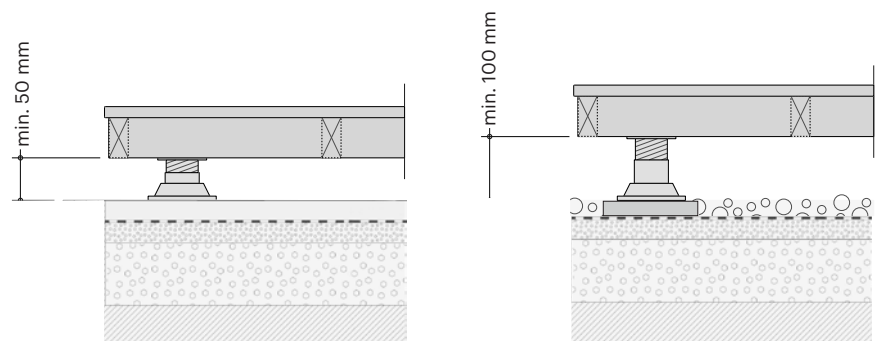


## 04.2. Ventilation space under the decking

We strongly advise against installing Lunawood decking boards directly on the ground without a subframe.

Allow some free space between the ground and the subframe elements to ensure ventilation and water drainage. This space should have a minimum height of:

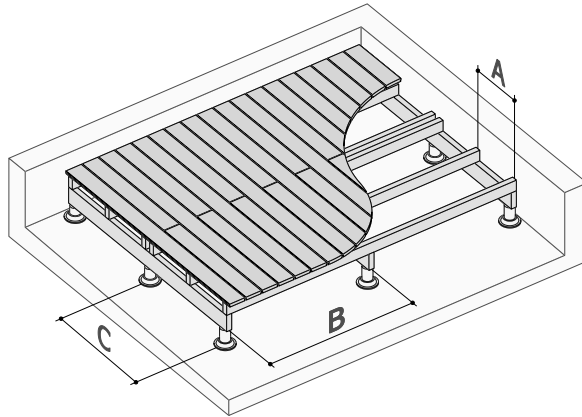
- 50 mm if the deck is installed on an impermeable surface.
- 100 mm if the deck is installed on natural soil.



Additionally, the total area occupied by the subframe supports should not exceed 20% of the total area of the decking to ensure ventilation on the ground plane.  
Note: outer supports should not exceed 150 mm distance in from the extents of the subframe.

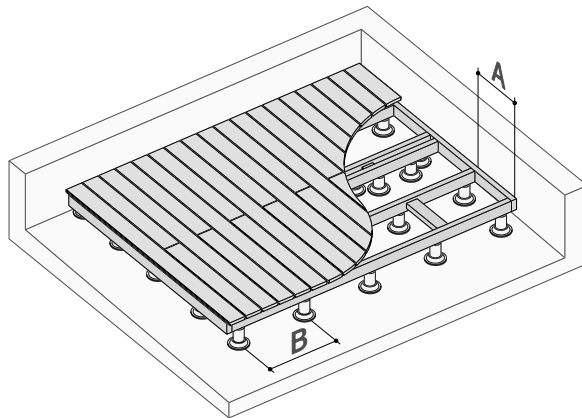
## 04.3. Building the subframe

The subframe can be of metal or wood. Wooden frame elements should be treated timber or a naturally durable species (preferably durability class 3 or better [EN 335]). Typical 450 mm on-center joist spacing may be used, while 300 mm can be beneficial in commercial or high-traffic applications.



Decking installed on a double-level subframe

	Lunawood decking board thickness (mm)	A	B	C		Estimated number of supports/m²	
		Maximum distance between second-level subframe elements (mm)	Maximum distance between first-level subframe elements (m)	Distance between ground supports (m)			
Low use	26	450		42x92 mm	42x140 mm	42x92 mm	42x140 mm
	32/40	600	1,40	0,80	1,20	0,89	0,60
High use	32/40	450	1,30	0,80	1,20	0,96	0,64
				0,45	0,70	2,22	1,43

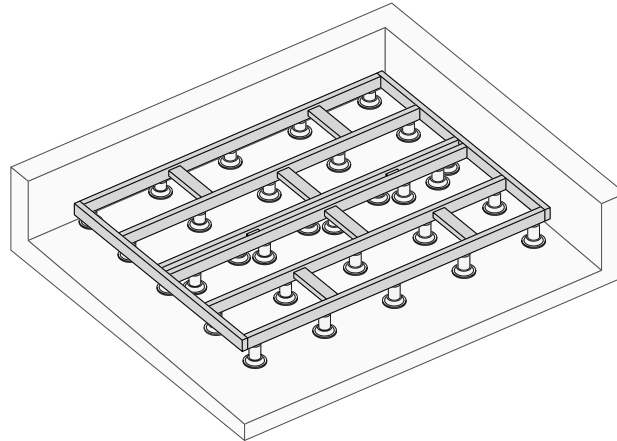


Decking installed on a single-level subframe

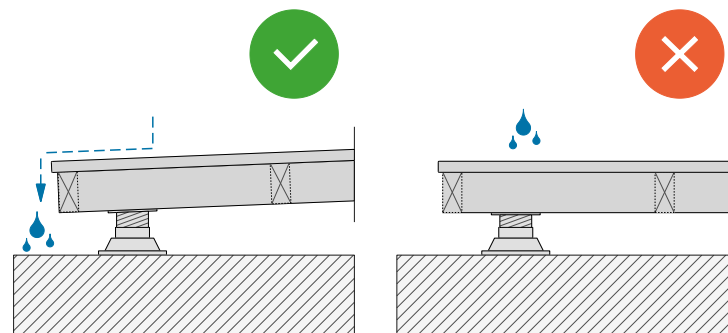
	Lunawood decking board thickness (mm)	A	B	
		Maximum distance between subframe elements (mm)	Distance between ground supports (m)	
Low use	26	450	42x92 mm	42x140 mm
	32/40	600	0,80	1,20
High use	32/40	450	0,80	1,20
			0,45	0,70

A metal subframe is the best option for low ground clearance installation. Follow the metal frame manufacturer's instructions.

When needed, use noggins to support the load-bearing joists. Place the noggins between the joists min. 20 mm lower than the top edge of the joists to ensure air ventilation between the noggins and the decking boards. Maximum distance between noggins should not exceed 1800 mm.



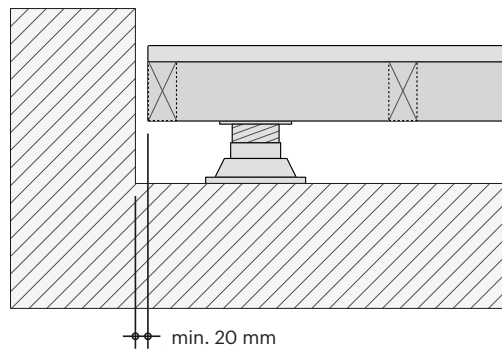
Sloping the decking by 1–2% helps to carry rainwater that may run off the decking as far as possible from the building. Without this sloping, water may accumulate on the decking. Formation of puddles, mold and possible cracking could appear in the boards due to the excess of moisture. Horizontal decks need a proper maintenance plan and can be more slippery than decking with a slight slope.



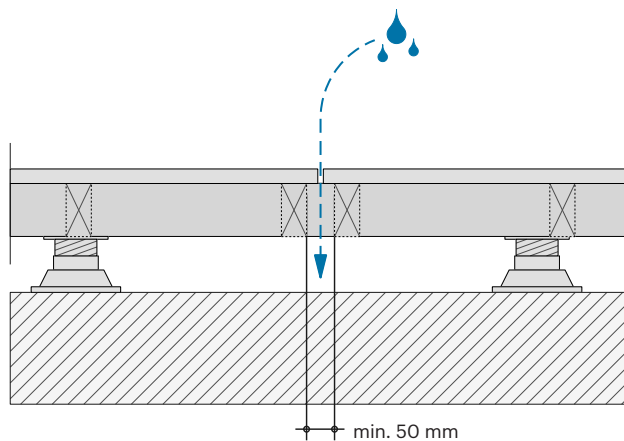
The method for attaching the subframe to the ground supports depends on whether you have a metal or wood subframe. Before construction make sure the attachment method, supports and material are suitable to use together. Follow the manufacturers' instructions and recommendations for the different components. Note that the bearing beams and the joists must have at least three supports under them.

For wood subframes, use AISI 304 (A2) stainless steel wood screws.

It is recommended to keep gap of at least 20 mm between the subframe and the wall of a building, for example, for sufficient ventilation.



Pay particular attention to the joints of the decking boards. Assemble a double row of joists under the end points of the boards. Leave at least 50 mm spacing between the joists to facilitate water run-off.





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# Installation of Lunawood decking

05

# 05.1. Fixing system for Lunawood Nordic Softwood decking boards

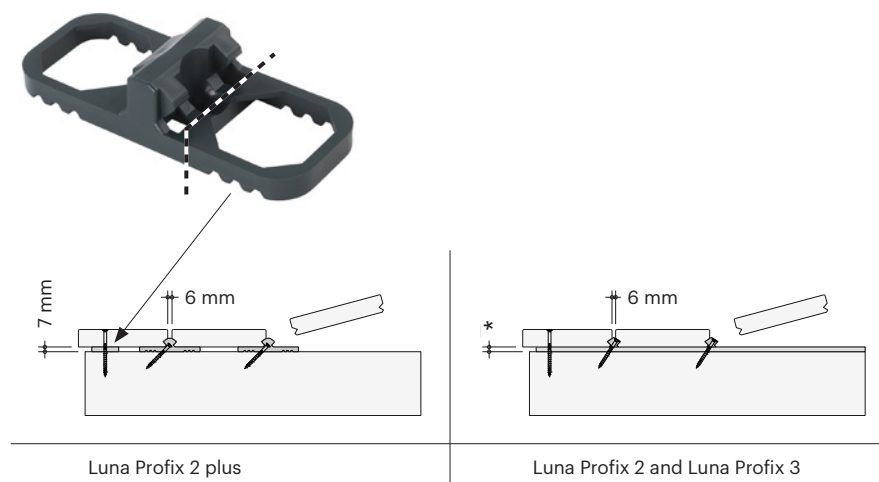
Lunawood Nordic Softwood decking boards can be attached using one of the following Lunawood fixing systems: Luna Profix 2 Plus and Luna Profix 2 for Luna SHP Profix 2 boards, and Luna Profix 3 for Luna SHP Profix 3 boards. All of these fixing systems allow for quick installation of decking using fewer screws and achieving a clean and elegant appearance without visible fasteners.

Lunawood hidden fixing system		
Luna Profix 2 Plus	Luna Profix 2	Luna Profix 3
		
For 26 mm boards	For 26 mm boards	For 32 mm and thicker boards
4,2x45 mm stainless steel screws	4,2x45 mm stainless steel screws	5x50 mm stainless steel screws

With Lunawood hidden fixing systems only use screws provided by Lunawood, which are self-drilling stainless steel AISI 304 (A2) screws or AISI 306 or A4 screws if you live on the coast or if your deck is water-adjacent. This condition is because an incorrectly shaped wedge of the screw can break the fixing. The fixing can also break if the screw is overtightened.

The Lunawood hidden fixing system is designed to maintain a 6-mm-gap between the decking boards for a flawless and homogeneous look. On board extensions, 6 mm gap is recommended. The end of each board must be attached to its own joist, with its own fastener.

Luna Profix 2 Plus starting pad can be cut off from the Profix 2 Plus as follows:

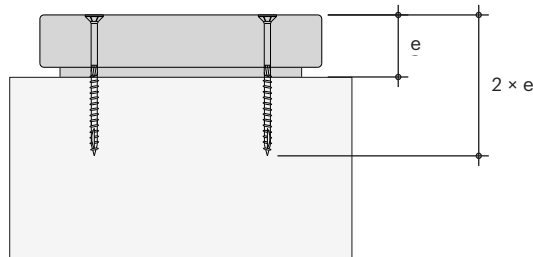


\* Thickness of spacing band

## 05.2. Installing decking boards with visible attachment system

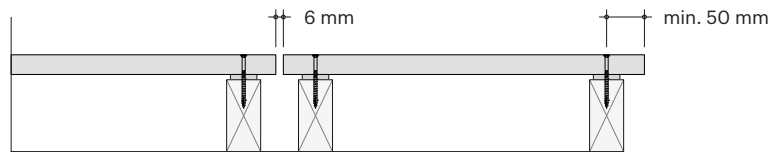
You can also face fasten Lunawood decking boards directly to the subframe with visible AISI 304 (A2) stainless steel screws (AISI 316 or A4 screws if near water). The optimal screw length is the sum of the decking thickness and the isolation band thickness multiplied by 2.

Pre-drilling and countersinking is necessary to prevent cracks and splitting.

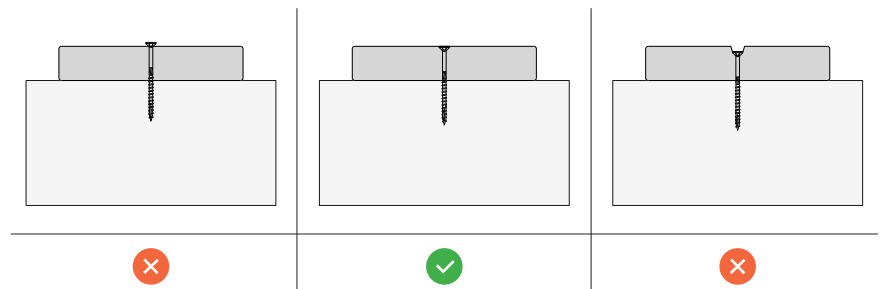


Leave a gap of 6 mm between the boards, both at the ends and on the sides of the boards, to facilitate ventilation and water run-off.

Pre-drilling is required when fixing is  $\leq 50\text{mm}$  from the end of the board and/or  $\leq 20\text{mm}$  from the edge of the board.



Set screws to the correct depth to avoid water accumulation or surface hazards. The screw head must be flush with the decking surface. Use a depth stop for consistency.

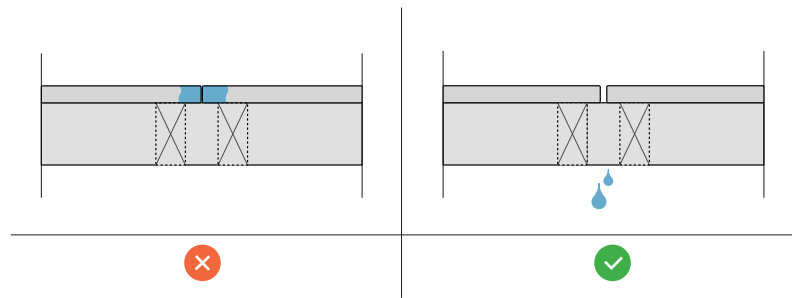


## 05.3. General rules for installing Lunawood decking

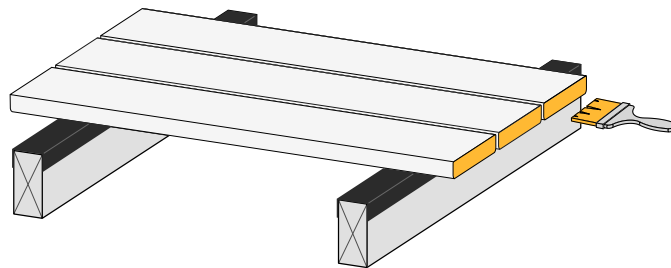
Leave a gap of at least 20 mm between decking boards and other structures to ensure ventilation and drainage. Ensure the boards do not extend more than 36 mm beyond the edges of the frame.

Leave a gap of at least 6 mm between the edges of the boards to provide ventilation and water drainage. If you use a Lunawood hidden fixing system, the fixings ensure the minimum gap required between boards.

If you are extending an existing decking, leave a gap of at least 6 mm with the original decking boards, also.



Minimize wood-to-wood contact to promote drainage and airflow between the decking boards and subframe. When using visible fasteners, Profix 2 or Profix 3, Luna protection and insulation band should be used. The Lunawood Profix 2 Plus hidden fixing systems create a ventilation gap without having to use additional spacers.



Apply an end-grain sealant or decking oil on the ends of the boards and after cutting the boards to reduce the formation of cracks at the cut edges.

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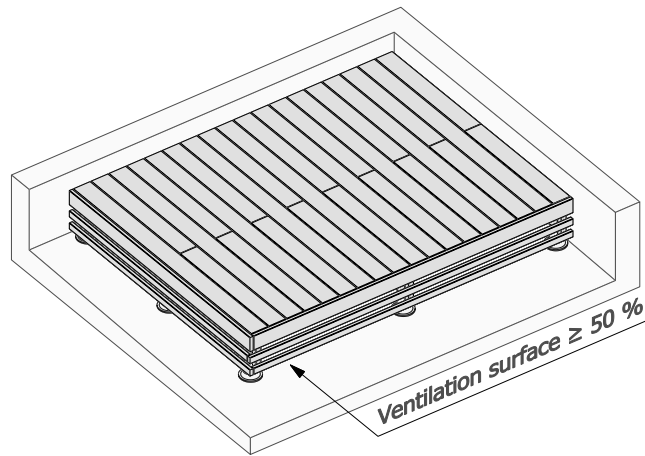
# Decking construction details

06

## 06.1. Covering the sides of the deck

While visually appealing, covering the sides of the deck can reduce the service life of the decking if the covering reduces ventilation of the under-deck cavity.

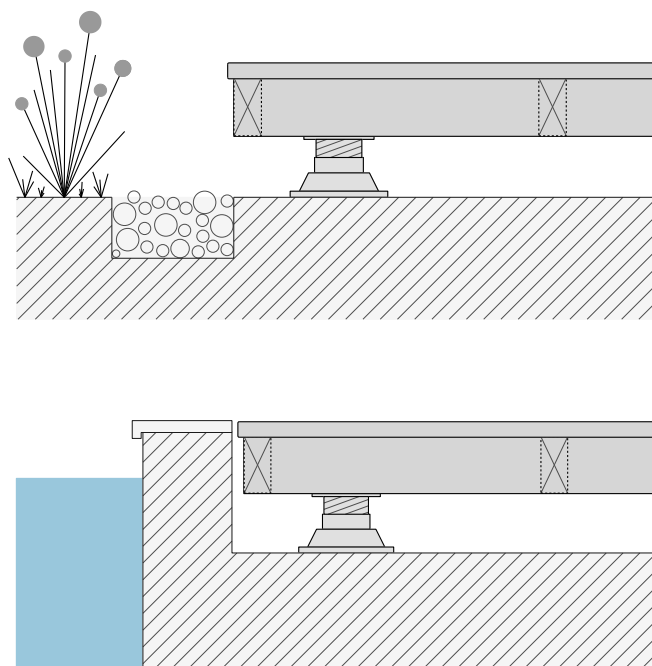
The sides can be covered with wood lattice or other materials that allow for ventilation. Choose a design that covers <50% of the lateral area.



## 06.2. Keep decking gapped from water and vegetation

To promote drainage and ventilation, a gravel barrier may be used to keep decking from contact with vegetation.

Similarly, decking should be gapped from water with a stone or ceramic pool edge. If using wood around the edge of a pool, make sure water-adjacent boards can be easily replaced without damage to the deck, on a metal support structure. Ensure board ends are not adjacent to water.



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# Maintenance and inspection

07

**Keep the deck clean**

Wooden decks require regular cleaning to clear the surface of leaves and dirt. Airborne impurities that accumulate on the decking can form a soapy film, encouraging the formation of slippery algae, moss or if ignored, wood-boring fungi. The deck can be swept to remove the accumulated dirt and then rinsed with low pressure water. Do not pressure wash as it may damage the surface.

**Remove snow with caution**

It is not recommended to use salt or sand as melting agents as they can cause damage to your decking. Use safe snow and ice melting products that do not damage the wood and are environmentally friendly. To avoid unwanted scratches and damage to the decking, it is advisable to use a wooden or rubber shovel instead of a metal shovel to manually remove accumulated snow from the deck.

**Avoid placing heavy objects in permanent direct contact with the decking**

Items that could prevent water from draining off the surface should not be placed in direct contact with the decking. Flower pots, umbrella stands, furniture or large objects should be placed on 15–20 mm thick shims to allow air circulation and water drainage. If very heavy objects such as planters are to be installed, the load-bearing capacity of the structure must be checked before installation. Regular rotation of deck furnishings will help maintain the deck in good shape.

**Protecting the decking from sharp edges**

It is advisable to protect the sharp and pointed edges of objects placed on the wooden decking because they could damage the surface of the boards.

**Moving heavy objects with care**

If it is necessary to move heavy objects across the decking surface, appropriate protective measures must be taken to avoid damaging the wooden surface.

**Do not lay carpets directly on the decking**

Entry carpets should never be in direct contact with decking as held water can cause irreversible damage to the wood. To ensure drainage and ventilation, it is recommended to use grids or “tramex” type elements under carpets or rugs.

**Warn users that the terrace may be wet**

Where necessary, it is advisable to place a warning sign “Caution: slippery when wet” to inform users that the decking surface may be wet. This can easily prevent unwanted slips.

In addition to keeping the decking surface clean, regular inspection of the entire structure is recommended.

In hotels and catering establishments, as well as in public areas, wooden decking should be carefully inspected at least every 2 years. In private buildings, roofs or terraces with wooden decking should be inspected regularly. Damaged or defective elements must be repaired or replaced. Inspections must always be recorded in writing. In case of doubt about how to deal with defective or damaged elements, it is recommended to consult professional experts.

**The following key points should be checked during inspections:**

- Check that the water drainage elements are working and are free of leaves and accumulated dirt.
- Check the condition of the deck components, including the substructure. Damaged elements must be repaired and replaced.
- Check the decking surface for possible damage that could cause accidents or tripping.
- Replace parts and hardware that have become excessively worn or corroded.
- Check the decking boards with visible screws to confirm that the boards are still firmly installed and, if necessary, tighten any screws that have loosened.

More detailed information on the care and maintenance of Lunawood decking is available on the website: [www.lunawood.com/download-centre/](http://www.lunawood.com/download-centre/)



# Legal disclaimer –

## Lunawood Collection – Decking Installation

### Product characteristics

The decking products within the Lunawood Collection are carefully manufactured and inspected to ensure quality. However, these are natural wood products and are subject to variations in weight, density, color, grain. Wooden decking is naturally subject to dimensional changes as the moisture content in the wood fluctuates with humidity in the air. Swelling, shrinkage, surface checking, and other movement of individual pieces are normal occurrences in wooden decking. Nevertheless, with Lunawood decking boards the swelling and shrinkage are minimal compared to kiln dried Scandinavian Pine, Spruce or North American White Ash.

### Before installation

Decking products within the Lunawood Collection should be stored and treated according to Lunawood guidance, see Lunawood technical guideline [www.lunawood.com](http://www.lunawood.com)

Adequate air circulation under the decking (subframes and decking boards) must be ensured in order to have long lasting Lunawood deck.

Always use appropriate personal protection equipment (safety glasses, dust mask and gloves) when working with Lunawood. We recommend an active carbon filter dust mask when drilling, sawing, sanding, or machining.

### Installation

Lunawood installation guidance must be followed. Installation of the products constitutes acceptance of their quality. Local building codes must be consulted when building a deck with decking products within the Lunawood Collection.

Deck must be built in accordance with regulatory requirements. Most countries may require building permits.

Drawings and schematics used to show where to place screws are for reference purposes only.

### Maintenance

Like all timber products Lunawood will go grey upon exposure to UV if left untreated, and in time may show some fine cracks or splits on the surface. In order to preserve and maintain the original appearance apply a surface coating that are suitable for Thermowood. Consult your local surface treatment manufacturer and see Lunawood General Maintenance Guide for decking on [www.lunawood.com/download-centre](http://www.lunawood.com/download-centre).

### Other information

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