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**HASSLACHER**  
**NORICA TIMBER**

From **wood** to **wonders**.



# Wood in your garden – Decking

Design | Installation | Care



01

# At a glance

The HASSLACHER Group is a member of the Association of the European Planing Mill Industry (VEH). In close cooperation with its member companies and Holzforschung Austria, VEH has developed this Code of Practice. For the design and execution of timber structures in outdoor areas, careful technical consideration of details, taking into account structural timber protection, is of paramount importance.

## General information

**Material, wood dimension, fastening methods** as well as execution details should be chosen according to the application. A wooden terrace is not the same as a wood floor for the interior. The demands on aesthetics are also different and cannot be compared.

**Horizontal wood decking** in an outdoor, open-weather environment is subject to extreme wear and tear. Due to this fact alone, changes such as discolouration, cracking, or warping, as well as varying look and feel, are inevitable over time.

The following principles do not claim to be exhaustive, but are intended as a suggestion for a more in-depth study of the subject.



Larch

Thermo ash

# 02

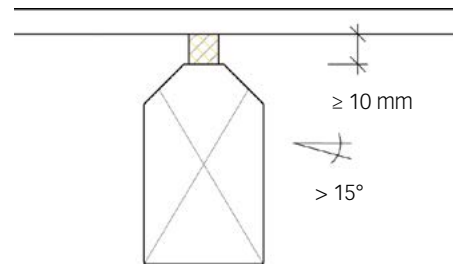
## Design | Installation

### 01 Reduce wood-on-wood contact areas

**Wood-on-wood contact areas** must be restricted to a width of **< 50 mm** and a length of **< 150 mm**.

Adequate **spacers** or **installation systems** minimise this contact area.

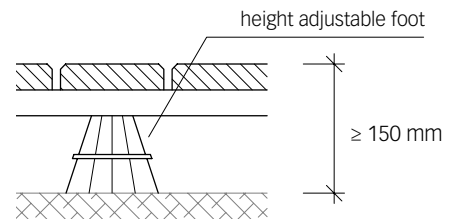
Large **contact areas** retain moisture, leading to rot damage within just few years.



### 02 Ensure ventilation of the structure

To ensure optimal ventilation of the structure, a clearance of **> 150 mm** to the ground should be maintained, e.g. using height adjustable legs.

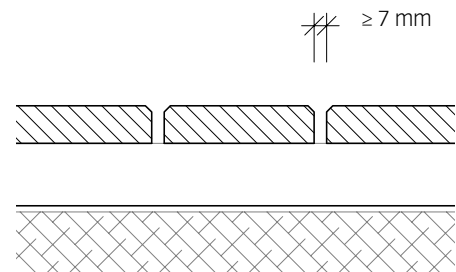
Due to insufficient ventilation, low **structural height** can lead to **waterlogging** and, ultimately, to rot damage within just a few years.



### 03 Maintain clearance between the boards

Check wood / **material humidity** prior to installation. The **gap width** should be adapted to the actual **wood humidity**. For this reason, the **gap width** should be **7–10 mm** at the time of installation (depending on material). Insufficient clearance leads to dirt accumulating in the gaps, leading to moisture retention in the **contact areas** and damage. In the event of excessive swelling of the board, the gaps can close and lead to fastener failure.

**Attention:** Maximum gaps between boards may be specified for public construction projects.

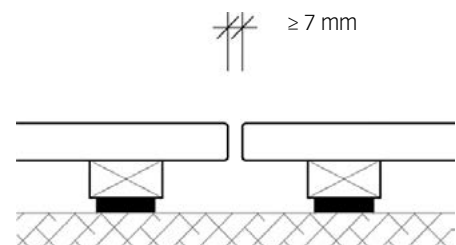


### 04 Longitudinal joint between the boards – Maintain clearance

To reduce **capillary water absorption** via the **end grain** the gap between board joints should be at least **7 mm**. We recommend to additionally treat these areas with end grain sealant.

If the gap is insufficient, moisture is absorbed relatively quickly via the end grain, resulting in **cracks and rot**. Additionally, water drainage is promoted and dirt accumulation prevented.

Board joints must be executed on two support blocks.

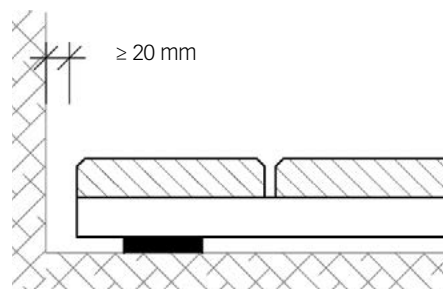


# Design | Installation

## 05 Maintain clearance to adjacent building elements

The clearance to adjacent building elements should be at least **20 mm**. Insufficient **clearances** prevent unhindered water drainage. Additionally, they can lead to contamination and **waterlogging** in this area.

Swelling due to insufficient clearance wood can also result in damage to adjacent building elements.



## 06 Maintain clearance of supporting structure

**The rule of thumb is:** Clearance  $e$  of the supporting structure  $\leq 20 \times$  board thickness. If **system fasteners** are used, the manufacturer's maximum clearances apply. In case of fall heights  $> 60 \text{ cm}$  / generally above water surfaces, the structure must be dimensioned by an expert.

	Board thickness in mm				
	20	24	28	32	40
$e$ [cm]	<b>40</b>	<b>48</b>	<b>56</b>	<b>64</b>	<b>80</b>

## 07 Maintain clearance between supporting structure and water-draining layer

**Supporting structure wood** should not be installed directly on top of water-draining layers, but with a clearance to the water-draining ground (take into account load distribution if gravel is used).

The clearance between the supporting structure and the water-draining layer should be at least **10 mm** (preferably 20 mm) and can be provided using spacers or plastic support feet.

If structures are installed on flat ground, a **minimum gradient** of the water-draining layer of **2 %** must be taken into account.

## 08 Use suitable fastening material – stainless steel screws

Stainless steel screws are available in various versions, with and without tapping heads, with and without smooth shafts. As fasteners, use **non-oxidising stainless steel screws** with a minimum diameter of **5 mm**, if the terrace is subjected to high loads, increase to  $\geq 6 \text{ mm}$ .

Depending on the screws' design, pre-drill as per manufacturer's specifications. Screw spacing in relation to board ends / lateral edge usually depends on the screw diameter and must be adhered to according to manufacturer's specifications.

## 09 Use suitable fastening material – system fasteners

**Fastening systems** don't damage the terrace surface, allow the boards to swell and shrink and can thus reduce crack formation. In most cases, a fastening system simultaneously minimises the contact area between the board and the supporting structure, contributing to structural wood protection.

The fastening system should come with a **certificate of suitability**.



# 03

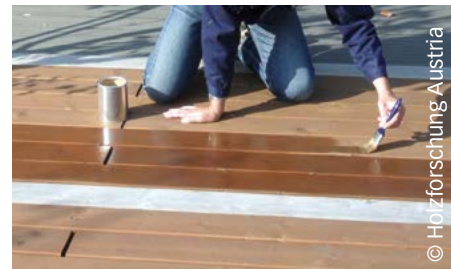
## Care | Service | Maintenance

Care, service and maintenance should be carried out at least once a year. The service life and durability of a terrace is largely dependent on these measures.

### 01 Surface coating

If a surface coating is desired, the use of non-film-forming or thin-layer coating systems is recommended. These should be applied according to the manufacturer's specifications. Advantages are the reduction of water absorption and the stabilisation of the surface in terms of colour and structure.

Care and service of coated wood surfaces should be carried out regularly or according to manufacturer's specifications.



Care and service of surface coatings

### 02 Regular cleaning, care and service

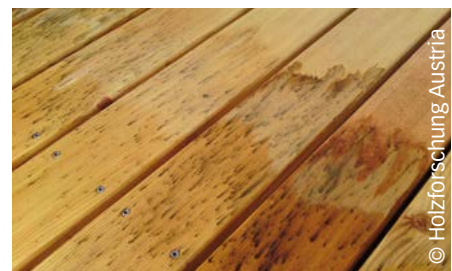
In the course of service, the structure should be checked at least once a year for changes and any damage that may have occurred. Joints and water drainage openings must be kept clean. Leaves and other impurities must be continuously removed from the terrace. Cleaning of the terrace surface can be done with water and a (hand) brush, larger terraces can be efficiently cleaned with a brushing machine. The use of high-pressure cleaners is not recommended.



Cleaning of terrace surfaces using a brushing machine.

### 03 Discolouration due to metal chips

Work on metals such as cutting or grinding should be avoided at all costs in the vicinity of wooden terraces, or the terrace surface should be protected from metal chips and metal dust. Metal chips react with moisture and the constituents of the wood, causing black discolouration. Metal chips can be clearly detected by chemical substances or indicator liquids.



Water-soluble tanning agents react on contact with minimal iron concentrations. These reactions lead to grey-blue to black discolouration.

### Bibliography

The listed installation instructions, care and service tips as well as graphics and images were taken from the following literature. We recommend that you read the literature listed below in detail.

[1] Balkone und Terrassenbeläge aus Holz, Holzforschung Austria, 2nd edition, Vienna 2008.

[2] Terrassenbeläge aus Holz, technische Broschüre der Holzforschung Austria, 1st edition, Vienna 2013. [www.holzforschung.at](http://www.holzforschung.at)

[3] VEH Holzterrassen, VEH Edition Nr. 8, Terrassen: planen, verlegen, pflegen, Vienna. [www.veh.org](http://www.veh.org)





# 04

## Decking and supporting structures



Finely ribbed decking  
Larch/Pressure-treated pine



Smooth decking with rounded-off edges  
Larch/Thermo-pine



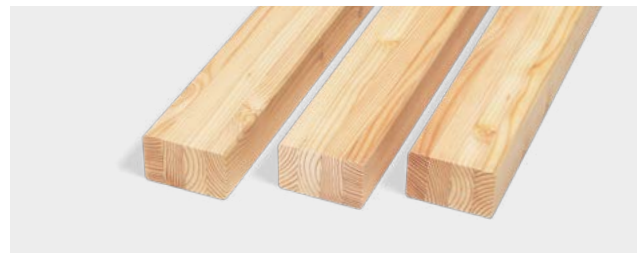
Comfort boards  
Larch



Ash thermo boards  
Larch/Thermo ash



Supporting structure for terraces  
Larch



Miniature laminated beams  
Larch

05

# HASSLACHER group product range



Sawn timber



Surfaced timber



Structural finger jointed  
solid timber & GLT®



Glued solid timber Duo/Trio



Glued laminated timber



Glued ceiling systems



Cross Laminated Timber



Glued laminated timber  
special components



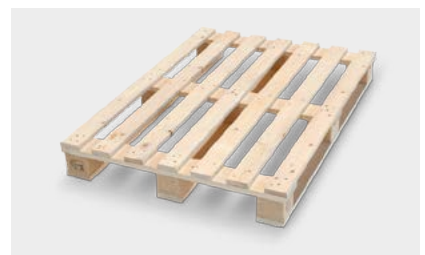
Solid wood boards



Pellets



Formwork panels



Pallets & packaging solutions



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