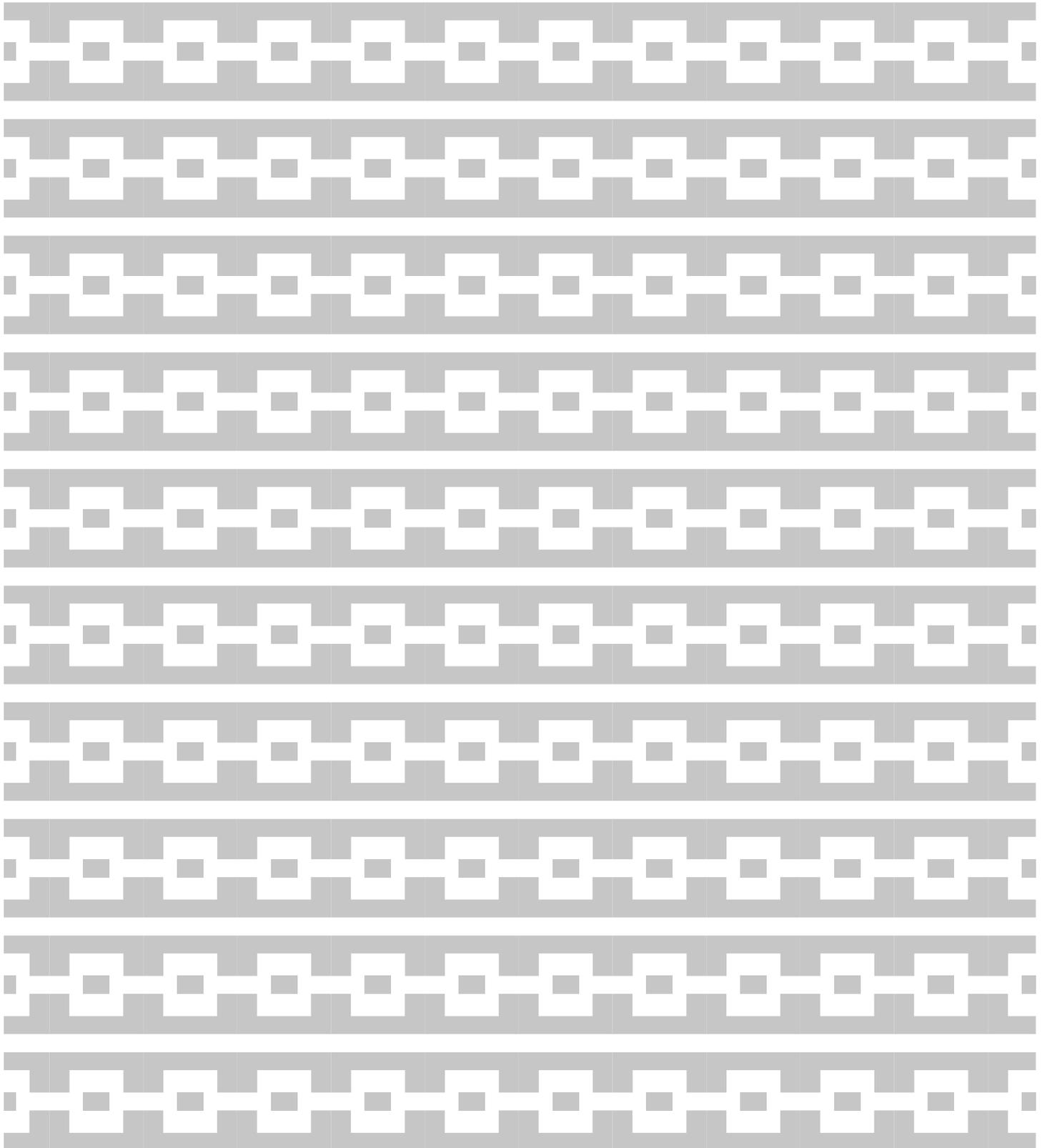


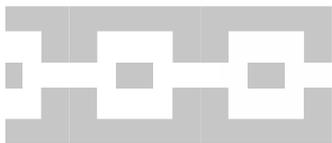


hartika
wood composite system

— empowered by nature



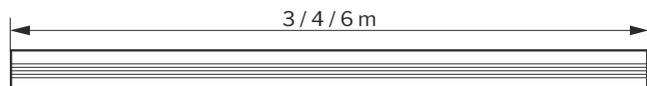
Hartika composite terraces.
Installation instructions.



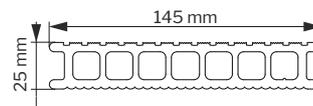
HARTIKA TERRACES SYSTEM ELEMENTS

A Terrace decking – dimensions

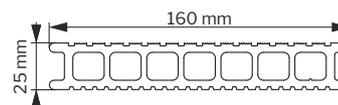
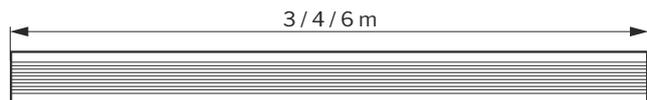
HD-01-4-X* **Hartika Tarase HOME**



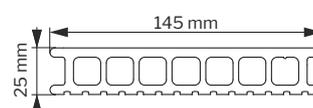
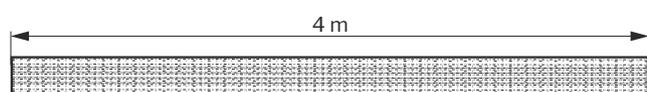
Cross-sections



HD-02-4-X* **Hartika Tarase KLASS**

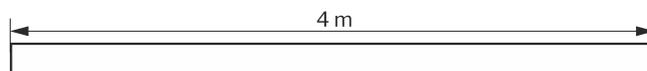


HD-05-4-X* **Hartika Tarase BASE**

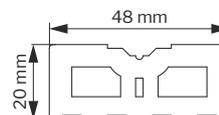


B Composite joists – dimensions

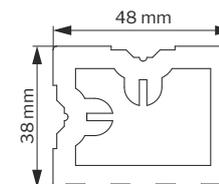
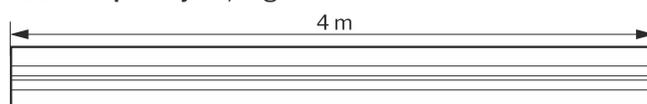
HLM **Composite joist, small**



Cross-sections

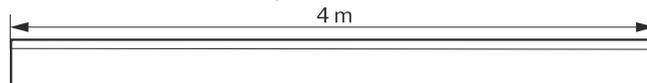


HLD **Composite joist, large**

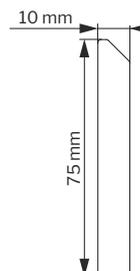


C Composite end strips – dimensions

HL-03-4-X* **WPC end strip, flat**



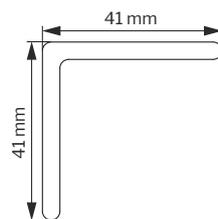
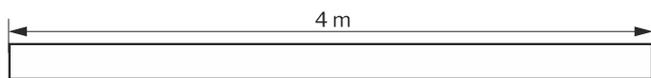
Cross-sections



* - X stands for colour. For currently available colours please visit our website www.hartika.com or use the catalog.

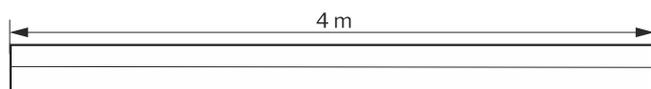
HARTIKA TERRACES SYSTEM ELEMENTS

HLW-04-4-X* **WPC end strip, angle**

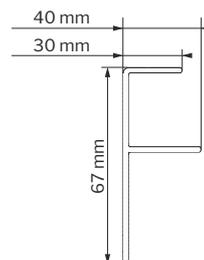


D Aluminium end strip

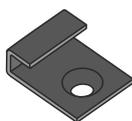
HLa-01-4-CX* **ALU F end strip**



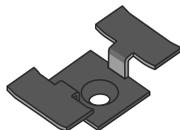
Cross-sections



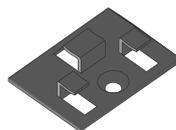
E Installation clip starting
HKS-01-0-6



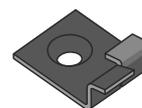
F Installation clip middle 5 mm
HKS-02-0-6



G Installation clip middle PRO 3 mm
HKS-03-0-6



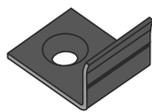
H Installation clip middle 3 mm
HKS-08-0-6



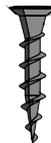
I Installation clip 5 mm for aluminium
HKS-07-0-6



J Installation clip ending
HKS-04-0-6



K Installation screw for WPC joists, 4,2x18
HW-11-0-C0



L Installation screw for WPC joists, 4x16
HW-04-0-C0



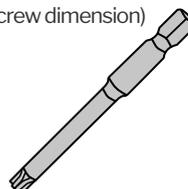
M Installation screw for aluminium profiles, 4X20
HW-06-0-C0



N Installation screw for end strips, 3,5x35
HW-02-0-C0



O BIT TORX T15 or T20 depending on screw dimension)



P BIT PHILIPS PH2



* - X stands for colour. For currently available colours please visit our website www.hartika.com or use the catalog.

TABLE OF CONTENTS

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HARTIKA TERRACE SYSTEMS

The HARTIKA terrace system elements are used to build terraces on ventilated flooring. This means that the terrace is constructed in such a way that there is a space between the ground and the terrace surface that allows for the free flow of air. In this way, we ensure that moisture does not accumulate in the space between the terrace and the ground / soil, gravel, concrete screed, roofing felt / and that the collected water can freely evaporate under the influence of heat and air circulation.

It is important that the ground has a minimum slope of 1-2% away from the building wall - the more uneven the ground is, the greater the slope must be to effectively drain the collected water from both the terrace ground and the newly laid composite terrace. In winter conditions, we may be sure that the water that has not yet evaporated will not damage either the terrace or the joists lying on the ground. We can also raise the supporting structure of the terrace, e.g. on concrete blocks, concrete piles or slabs, and anchor it to the ground. Terrace boards can be laid in this way both on hardened ground, i.e. on blocks or concrete piles, as well as on new or old, but stable concrete screeds, even covered with traditional terracotta or ceramic tiles. Ventilating terraces are a response to frequent problems caused by many years of freezing and thawing cycles, thermal shock caused by cold precipitation on a heated surface, significant moisture from rainwater and other numerous climatic factors that adversely affect the traditional terrace coverings used, such as ceramic tiles laid on an adhesive mass.

Terraces made in this way meet the PN-85/S-10030 standard regarding crowd load and amounting to 4 kN/m² and the requirements included in the National Technical Assessment issued by ITB.

Hartika ventilated terrace systems can be divided into two categories:

- terraces anchored to the ground, laid on a concrete terrace screed or as a covering for old but undamaged ceramic tiles, or on concrete piles, blocks, slabs

- NOTE: joists are always anchored to the ground.

- floating terraces, the structural elements of which are not directly connected to the ground and do not damage its structure. Such a terrace requires appropriate preparation of the ground - it should be even and stable and have a drainage system and appropriately profiled slopes that facilitate water drainage. Usually, such a covering is made of roofing felt, foil, roofing membrane or bituminous masses.

There are many technical solutions for such coverings, but they all have a common feature - they cannot be mechanically damaged because then water and weather conditions cause moisture and leaks.

Only on this subfloor can joists or wedges and brackets be laid as a support for the joists and decking. Floating decks are usually laid on insulated foundations, inverted roofs and wherever the weight and overall height of the decking does not allow the use of ballast or where a difference in level between the starting threshold and the base of the decking justifies the use of terrace supports.

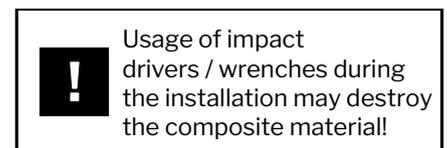
A floating terrace is also a solution where the client does not agree with fixing the joists to the ground with plugs and screws - roofing felt or a waterproofing membrane. If plugs and screws are accepted, it is advisable to use a suitable type of sealant depending on the covering of the terrace or the roof if it is a roof terrace: Butyl silicone or polyurethane sealants. In case of a roof covered with a waterproofing membrane laid over insulation, e.g. XPS boards, we can only use a floating terrace system.

For any doubts it is advisable to contact the building administrator or designer, who should propose a suitable technical solution.

INSTALLATION TOOLS

In order to assemble a terrace using Hartika system elements, it is worth to acquire the following tools:

- Drill,
- Screwdriver with TORX T15 and T20 bits (depending on the type of screws) and Ph2
- Spirit level
- Hammer
- Measuring tape
- Battery screwdriver
- Metal drills $\varnothing 2$, $\varnothing 4$ and $\varnothing 5$ mm, concrete drills $\varnothing 6$ and $\varnothing 8$ mm
- Miter saw
- An additional tool that makes installation easier is a plunge-cut saw.



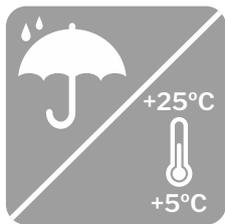
GENERAL CONDITIONS FOR THE INSTALLATION OF COMPOSITE HARTIKA TERRACE SYSTEMS

The terrace should be installed when the outdoor temperature is not lower than 5°C and not higher than 30°C. The material delivered to the site must be allowed to acclimatize to the ambient temperature for at least 24 hours. This will allow you to properly maintain the expansion gaps between the faces of the boards, as well as distances from structural elements such as railings, walls, handrails, balcony windows, etc.

Wood composite works under the influence of temperature within the limits of the applicable standard. Under the influence of temperature changes of 50°C, the dimensional change of a 4 m long board can reach up to 10 mm. Therefore, we do not recommend stacking boards of 6 m and more in a row along the length of the board. In extreme cases, such stacking of several 6-meter boards can cause the length of the board to increase by up to 15 mm. As a result, the board can get caught in the structural elements of the deck or even pop out of the clips.

This also applies to installation in high temperatures. Do not install the clips on the edge of the board, as this may cause the board to come out of the clips in cold winters. Below are the main rules for installing decking. This is important information that will allow you to safely go through the process of laying the terrace foundation, anchoring the joists and laying the decking together with the terrace finishing elements. The HARTIKA terrace system is complete and allows you to build your own terrace based on the components supplied by the manufacturer.

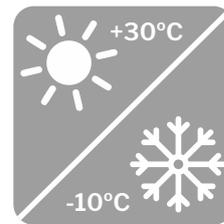
Please read the basic rules for installing the system, this will enable you to build and use the complete terrace system without any problems:



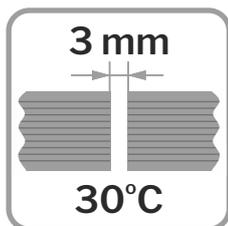
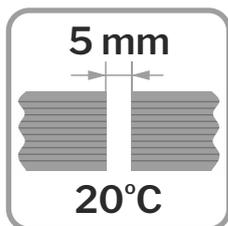
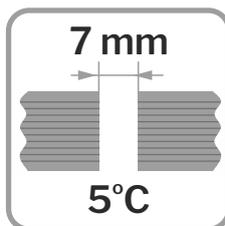
INSTALLATION CONDITIONS,
NO RAINFALL, OUTDOOR
TEMPERATURE MIN. +5°C - MAX. 30°C



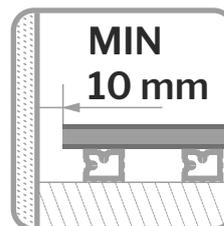
MATERIAL SEASONED ON INSTALLATION
SITE FOR A PERIOD
OF AT LEAST 24 HOURS



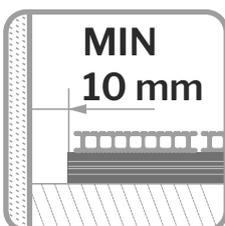
CHANGE OF BOARD LENGTH
DEPENDING
ON TEMPERATURE 2mm / 1m



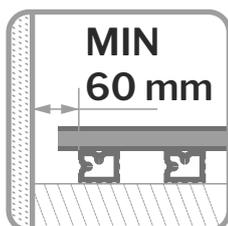
REQUIRED DISTANCE FROM THE FRONT OF THE BOARDS
DEPENDING ON THE AMBIENT TEMPERATURE
DURING INSTALLATION DISTANCES REQUIRED FOR 4m LENGTH OF BOARD



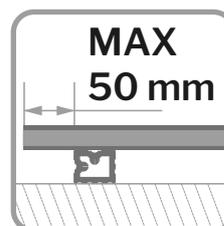
DISTANCE OF THE FRONT
OF THE BOARD FROM FIXED ELEMENTS
(WALL, HANDRAIL, BALUSTRADE, ETC.).



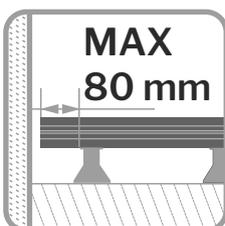
DISTANCE OF THE FRONT
OF THE JOIST FROM FIXED ELEMENTS
(WALL, HANDRAIL, BALUSTRADE, ETC.).



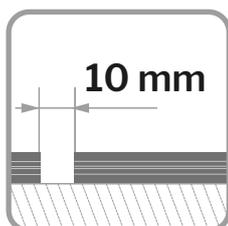
DISTANCE OF THE SIDE OF THE JOIST
FROM FIXED ELEMENTS
(WALL, HANDRAIL, BALUSTRADE, ETC.).



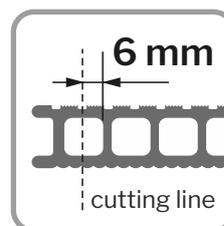
BOARD EXTENSION
OUTSIDE THE LEGAR



EXTENDING OF THE JOIST OUT
OF THE SUPPORT
(WEDGE, CONCRETE ELEMENT,
BUZON, ETC.)



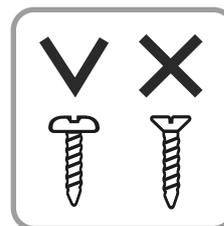
DISTANCE BETWEEN 4 M JOISTS
MEASURED FROM THE FRONT
(JOISTS ANCHORED TO THE GROUND)



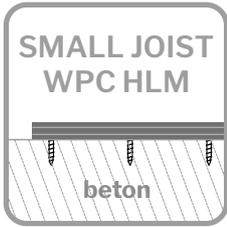
BY LOWERING THE WIDTH OF THE BOARD,
CUT DOWN TO MAINTAIN
A DISTANCE OF MAX. 6 MM FROM
THE PREVIOUS CELL.



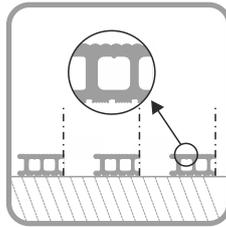
THE SCREW FIXING THE JOIST TO THE GROUND SHOULD
NOT PROJECT ABOVE THE CONTACT SURFACE BETWEEN THE JOIST AND THE BOARD.
THIS WILL PREVENT THE SO CALLED CURLING EFFECT.



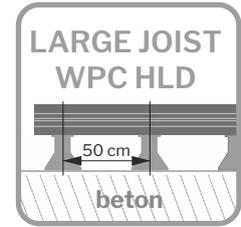
COUNTERSUNK HEAD SCREWS MAY CAUSE
CRACKING OF JOISTS. USE QUICK-ACTION
FASTENERS, HAMMER-IN PLUGS AND
SCREWS WITH OVAL HEADS. SCREWS HAVE
TO BE SCREWED IN, NOT HAMMERED!



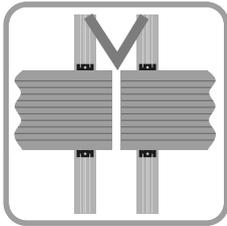
SMALL JOIST WPC HLM
SMALL JOIST CAN NOT BE SUPPORTED, IT HAS TO BE LAID ON A LEVEL SURFACE AND FIXED TO THE GROUND.



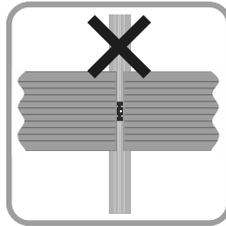
DIRECTION OF THE BOARD - THE MARK SHOULD ALWAYS BE ON THE SAME SIDE. IN THIS WAY, THE BRUSHING DIRECTION AND VISUAL EFFECT IS MAINTAINED.



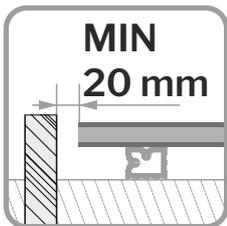
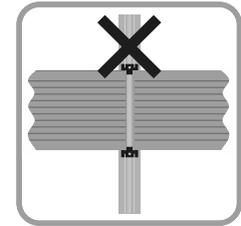
LARGE JOIST WPC HLD
A LARGE JOIST CAN BE SUPPORTED WITH A SUPPORT DISTANCE OF MAX. 50 CM.



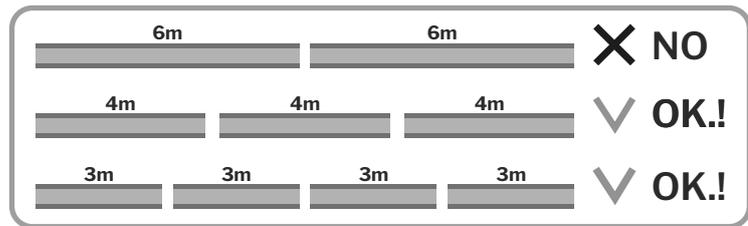
TWO BOARDS SHOULD ALWAYS BE JOINED LENGTHWISE ON TWO DIFFERENT JOISTS



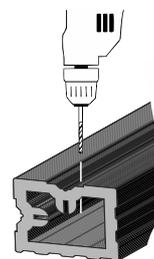
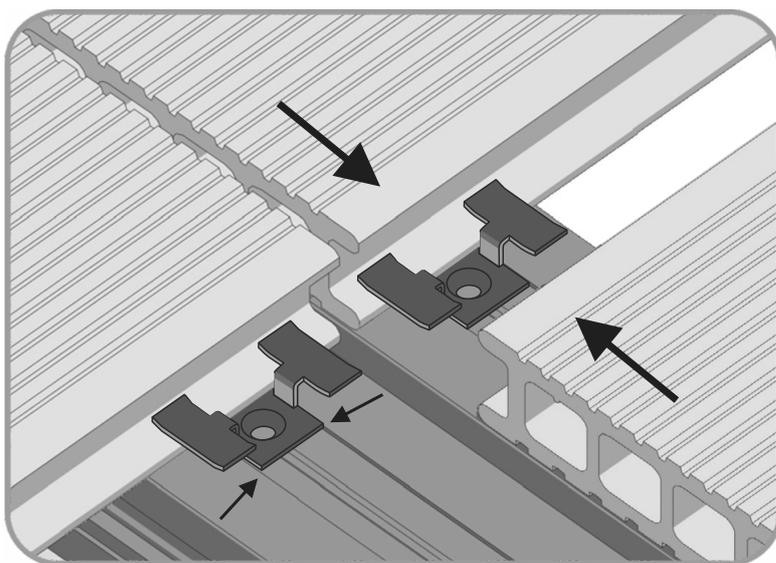
THE FACES OF THE BOARDS MAY NOT BE CLIPPED TOGETHER. THE ENDS OF JOINED BOARDS CANNOT BE PLACED ON A COMMON JOIST.



IF THE DECKING IS SURROUNDED BY CURB, THE DISTANCE FROM THE FRONT OF THE BOARD TO THE CURB SHOULD BE MIN. 20mm
ATTENTION: IT IS NECESSARY TO PROVIDE A SLOPE AND RAINWATER DRAINAGE.



DUE TO THE CHANGE IN BOARD LENGTH CAUSED BY TEMPERATURE VARIATION, DO NOT LAY 6m BOARDS IN ONE ROW. THE MAXIMUM RECOMMENDED LENGTH OF THE INDIVIDUAL BOARDS IN A ROW IS 4 METRES.



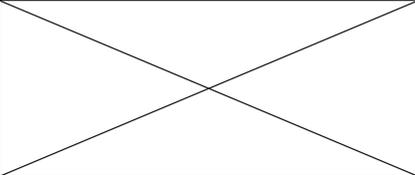
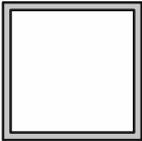
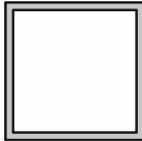
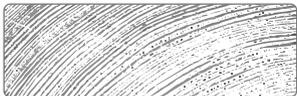
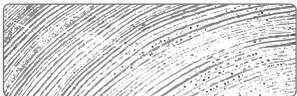
When installing the clip, remember about pre-drilling holes in the joist, use for this purpose a drill with a diameter of 2 mm

THE HKS-02-0-6 CLIP SHOULD ALWAYS BE PLACED IN THE DIRECTION SHOWN IN THE PICTURE ABOVE. ONLY THEN THE BASE OF THE CLIPP WILL FIT TO THE CORRESPONDING GAP IN THE JOIST, AND THE DISTANCE BETWEEN THE BOARDS WILL BE EXACTLY 5mm.

HARTIKA TERRACE SYSTEMS

installation methods for joists

The table below shows the possible ways of installing decking joists using Hartika composite system joists as well as alternative / optional joists available on the market.

	JOISTS ANCHORED TO THE GROUND	JOISTS NOT ANCHORED TO THE GROUND FLOATING SYSTEM	TYPE OF CLIP
COMPOSITE JOISTS WPC	 small joist HLM-04-4-6		HKS-01-0-6 / starting HKS-02-0-6 / 5mm HKS-08-0-6 / 3mm HKS-04-0-6 / ending
	 large joist HLD-04-4-6	 large joist HLD-04-4-6	HKS-01-0-6 / starting HKS-02-0-6 / 5mm HKS-08-0-6 / 3mm HKS-04-0-6 / ending
OPTIONAL JOISTS (PROFILES) SUITABLE FOR HARTIKA SYSTEM*	 aluminium joist (profile) 40 X 40 X 2mm	 aluminium joist (profile) 40 X 40 X 2mm	HKS-01-0-6 / starting HKS-07-0-6 / 5mm HKS-04-0-6 / ending
	 aluminium joist (profile) 40 X 60 X 2mm	 aluminium joist (profile) 40 X 60 X 2mm	HKS-01-0-6 / starting HKS-07-0-6 / 5mm HKS-04-0-6 / ending
	 wodden joist 50 X 100mm 50 X 80mm type: KVH, C-24, Beech, Oak, Larch, Maple, Bangkirai, Impregnated pine**	 wodden joist 50 X 100mm 50 X 80mm type: KVH, C-24, Beech, Oak, Larch, Maple, Bangkirai, Impregnated pine**	HKS-01-0-6 / starting HKS-02-0-6 / 5mm HKS-04-0-6 / ending

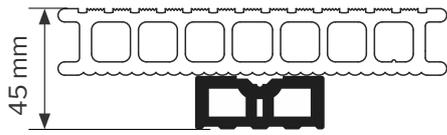
* Aluminium joists according to EN-10204, EN-AW-6060

** Using joists of impregnated pine only 50 X 100mm dimmensions are recommended.

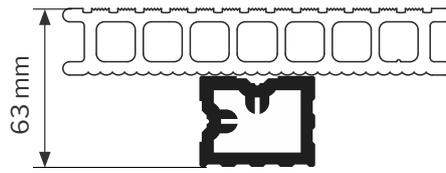
Joists installation basic principles



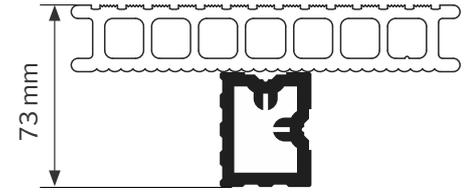
Before installation, the height of the terrace level depending on the joist used and its positioning is to be set. Below, we show the height of a terrace based on HARTIKA system composite joists:



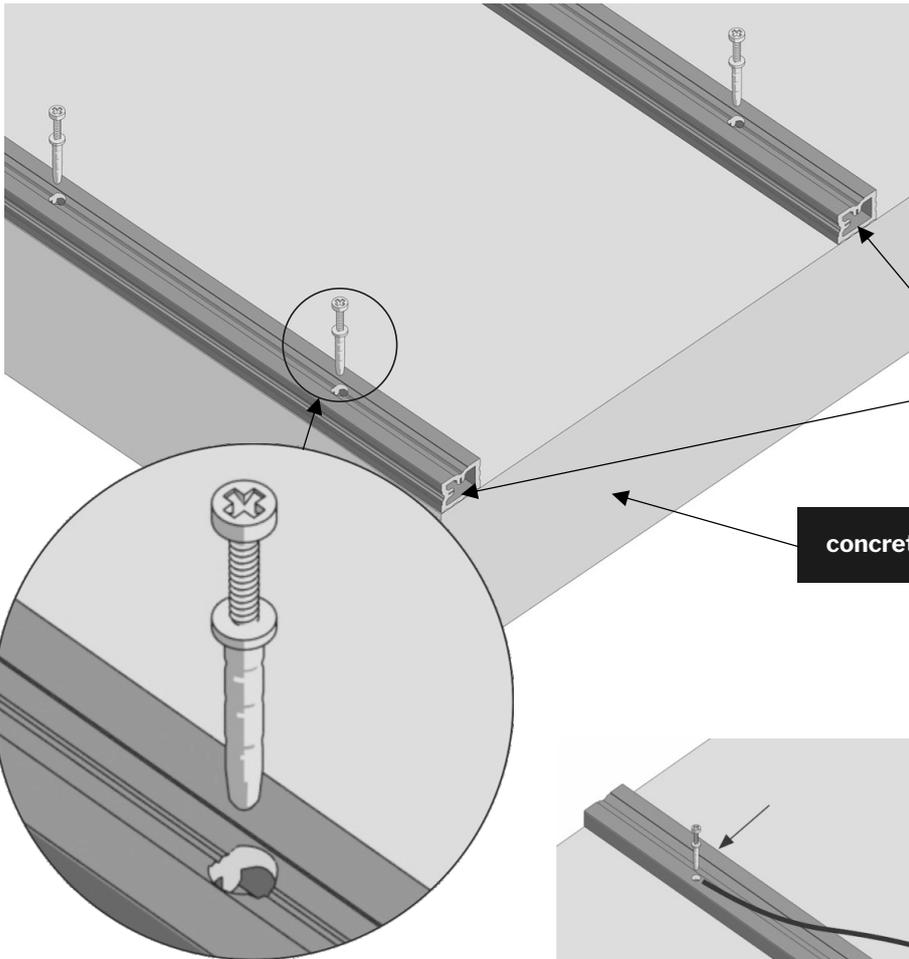
20 mm + 25 mm
HLM-04-4-6



38 mm + 25 mm
HLD-04-4-6



48 mm + 25 mm
HLD-04-4-6



Joists should be fixed directly to the ground using plugs / quick-action fasteners with cylindrical heads (countersunk screws may cause cracking of the joists).

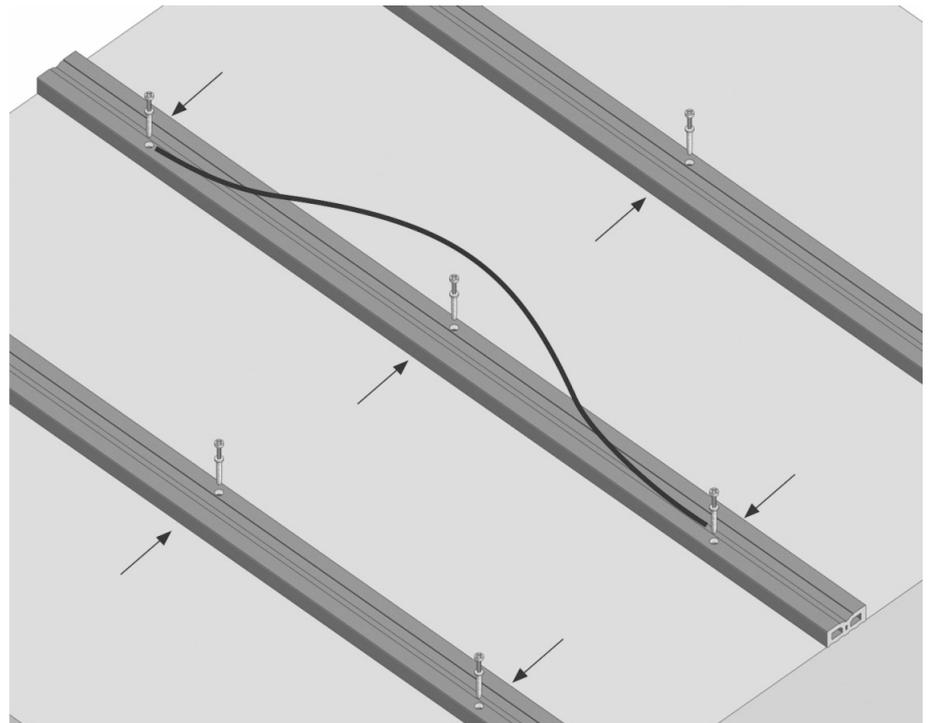
When installing the joists across the gradient for water drainage, leave gaps of approximately 1 cm between the joists in several places.

composite joist

concrete foundation

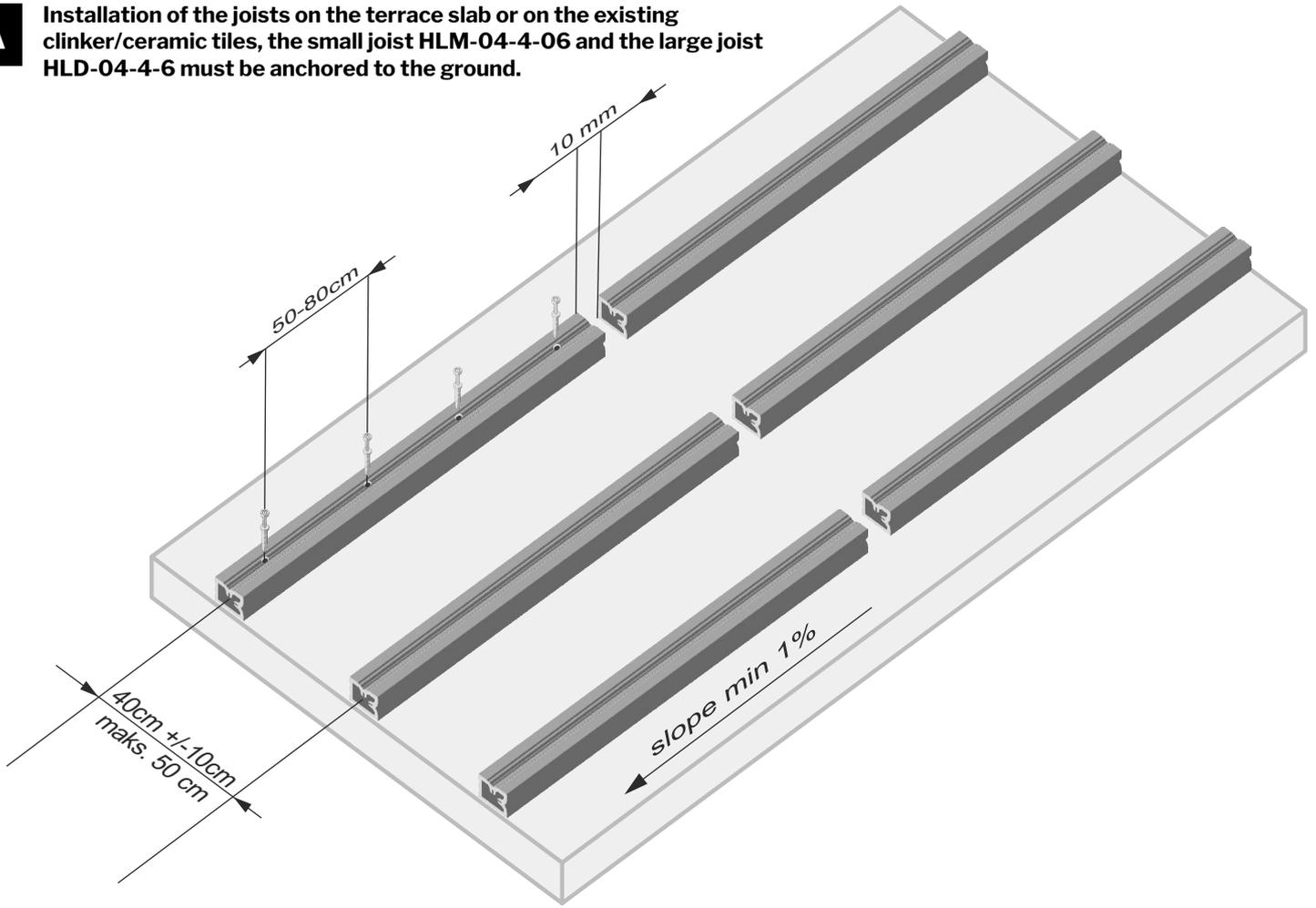
In the small joist with a height of 20 mm, we fasten the plugs alternately on the right and left edge.

It is allowed to fit the joists by fixing the screws centrally in the joist cross-section.



Installation of joists anchored to the ground.

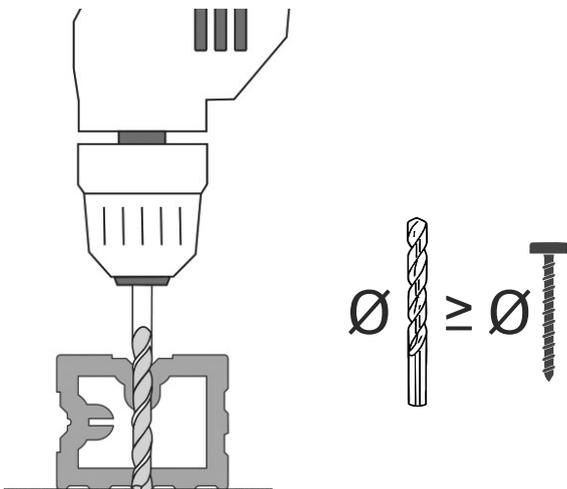
A Installation of the joists on the terrace slab or on the existing clinker/ceramic tiles, the small joist HLM-04-4-06 and the large joist HLD-04-4-6 must be anchored to the ground.



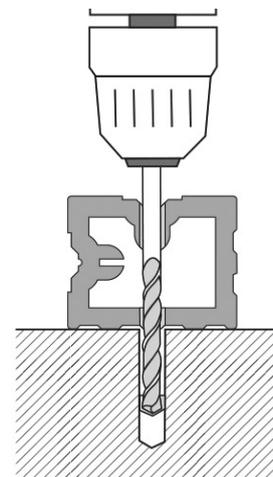
Small and large composite joists can be used on concrete slabs or ceramic tiles which are sufficiently glued to the surface. Remember to maintain the slope towards the outside of the decking so that water flows freely over the surface and over the decking boards.

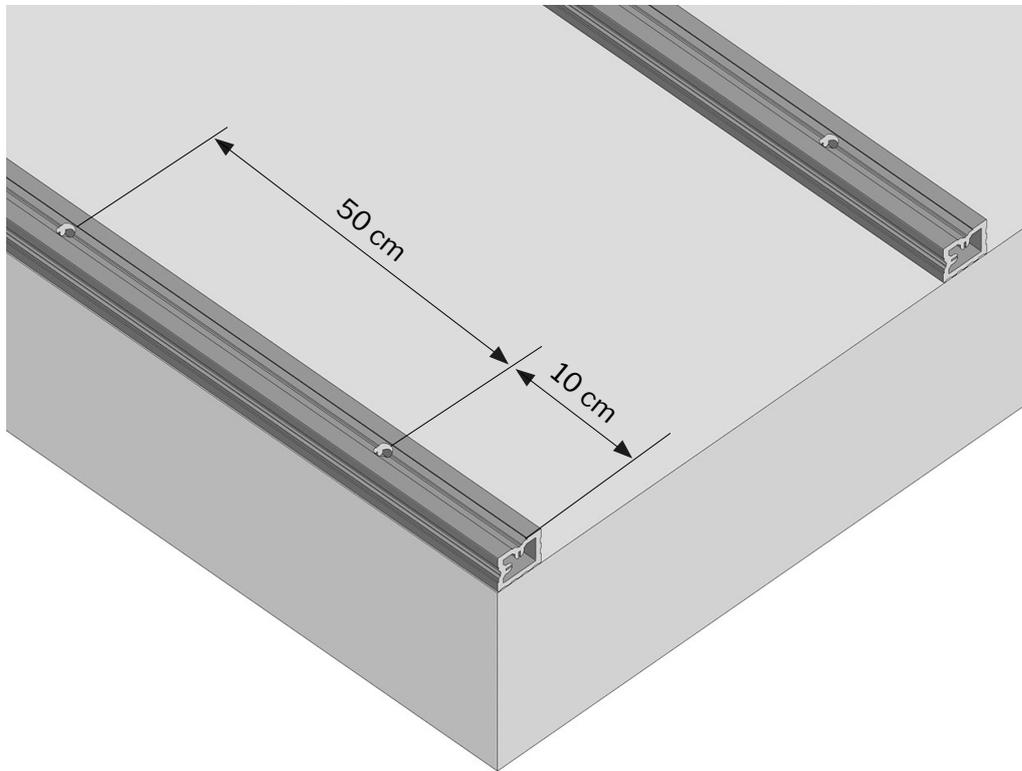
If you have chosen to install the boards parallel to the house wall, remember to let the water drain away from the terrace, it is important to always leave a distance of 10 mm between the face of the joists. If you use small joists, do not support them, large joists can be supported every max. 50 cm to preserve the rigidity of the decking. For the support of the joists, only use installation wedges or shims made of hard materials. Do not use tar roofing felt for the support of the joists / the roofing felt, especially the few leaves placed on top of each other, changes its thickness due to temperature and load which causes the deflection of the terrace during the use and the accumulation of water in the deflection areas of the board.

1 Pre-drilling of the joist



2 pre-drilling of the ground



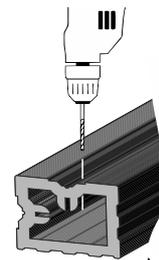


Drill the plug holes every 50-80cm. Install the first plug at a distance of 10 cm from the end of the joist / edge of the terrace.

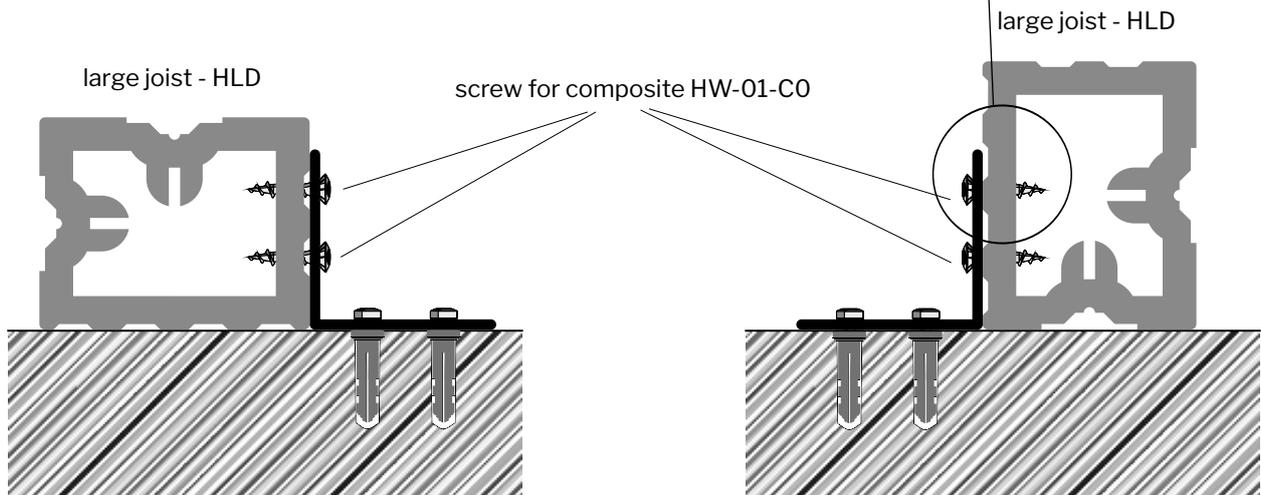
Joists should be fixed directly to the ground. The laying of felt or other permanently deformable materials underneath is not permitted.

If the surface needs to be levelled, rubber pads made of EPDM rubber or PE foam tape can be used.

C Other ways of anchoring the joists to the ground.
Installation with 30 x 30 x 30 mm fixing angles

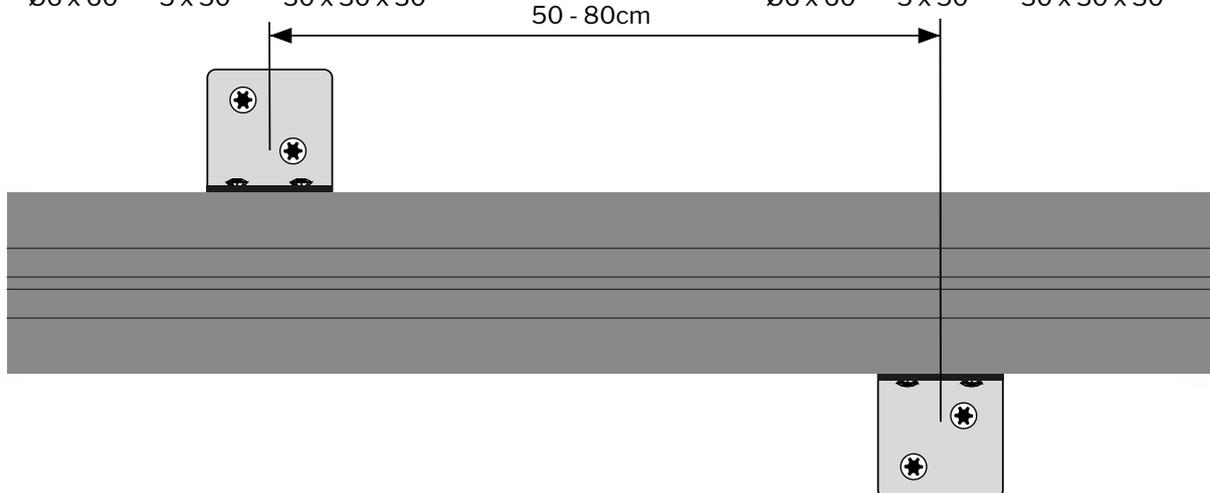


When installing the clip, remember about pre-drilling holes in the joist, use for this purpose a drill with a diameter of 2 mm



plugs: Ø6 x 40
Ø6 x 60
screw: 5 x 30
5 x 50
fixing angle: 30 x 30 x 25
30 x 30 x 30

plugs: Ø6 x 40
Ø6 x 60
screws: 5 x 30
5 x 50
fixing angle: 30 x 30 x 25
30 x 30 x 30



D

**Other methods of anchoring joists to the ground.
Installation on piles poured into the ground.**

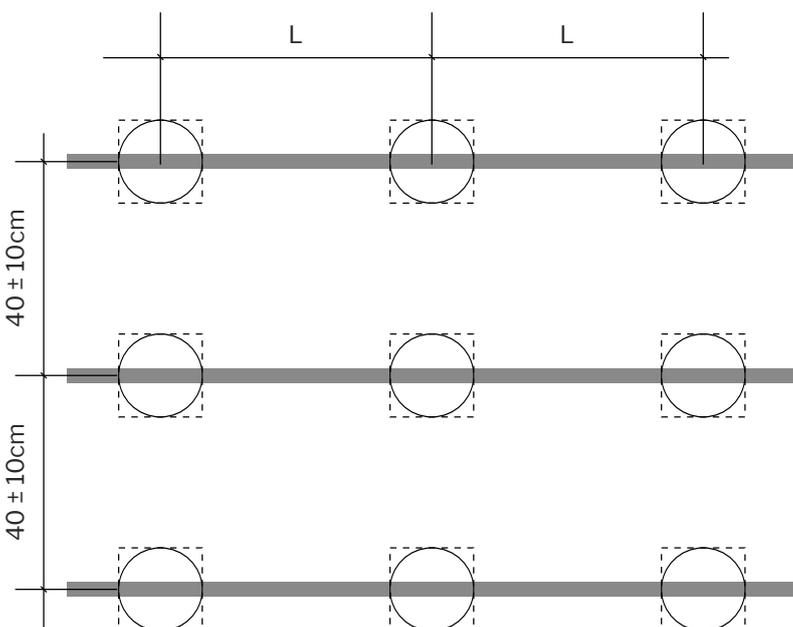
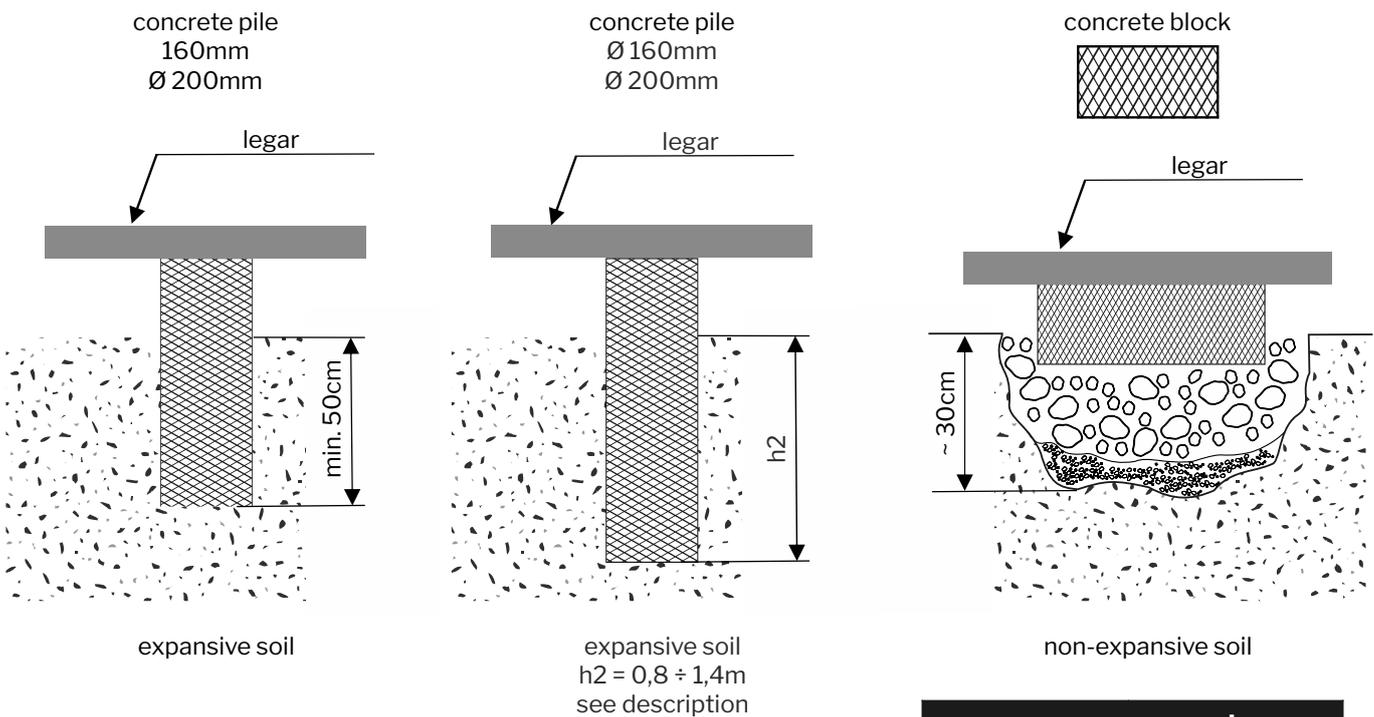
If your installation site is located on expansive soil, i.e. soil that tends to expand during frost, the water freezes and causes the elements to move upwards, then the most recommended solution is to use cast-in-place concrete piles with a minimum diameter of 160 mm (200 mm recommended). PVC pipes or formwork sleeves can be used as formwork.

Anchoring of the joists to the concrete piles is carried out in the same way as for the concrete blocks.

Alternatively, threaded rods can be placed on the piles (at the upper edge) and by using nuts with washers, the levels of the joists can be adjusted. This solution works well for wooden and steel joists. In order to ensure that the poured piles do not move in subsoil, they must be poured at least to the depth of the frost zone - hz.

Information on the frost zone must be determined by yourself according to the location of the terrace.

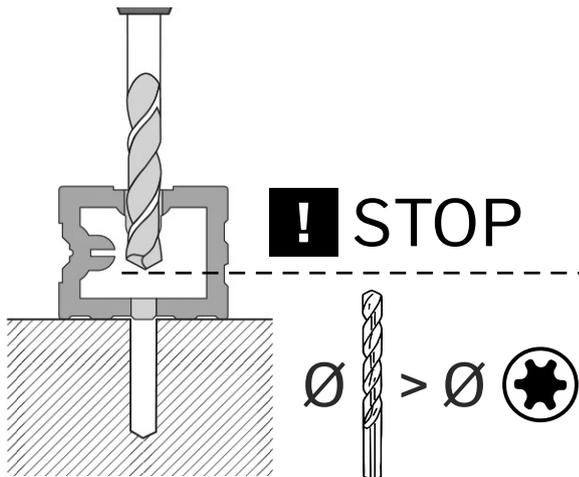
If in doubt, you can take advice from the relevant local construction engineering organisation. If you are certain that the installation site is not located on expansive soil, then a depression of up to 50 cm in the ground is sufficient and the height above the ground surface determines the level of the terrace window or balcony/terrace exit.



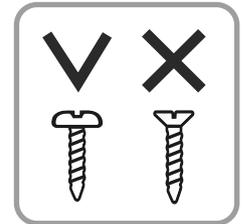
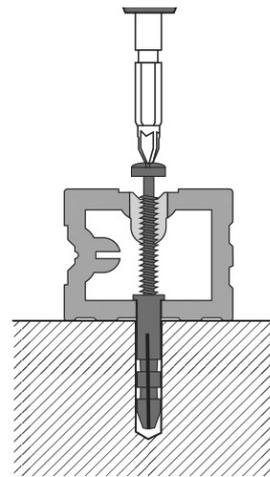
joist type	L support spacing measured axially
HLD - composite joist large	70 cm
aluminium profile 40 x 40 x 2	80cm
aluminium profile 40 x 60 x 2	110cm



3 Reaming the top surface of the joist

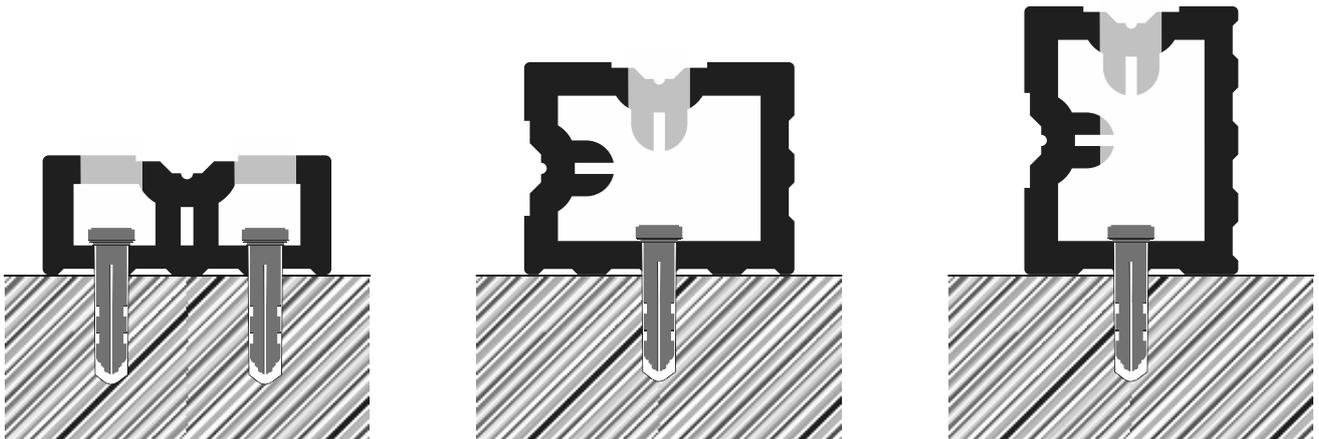


4 Fixing of the expansion plug



Countersunk head screws may cause cracking of joists. use quick-action fasteners, hammer-in plugs and screws with oval heads. Screws have to be screwed in, not hammered!

B Other ways to anchor joists to the ground - recommended dimensions for screws and plugs.



Expansion plug or quick-action plug Ø6 x 40mm Ø6 x 60mm	Expansion plug or quick-action plug Ø6 x 40mm Ø6 x 60mm	Expansion plug or quick-action plug Ø6 x 40mm Ø6 x 60mm
Pan head screw 5 x 30mm 5 x 50mm	Pan head screw 5 x 50mm 5 x 60mm	Pan head screw 5 x 50mm 5 x 60mm
On the small joist the plugs are placed transversely - see description below	The plugs should be placed 50 +/- 80cm from each other, first plug 10cm from the end of the joist / edge of the terrace	

Installation of joists not anchored to the ground - floating terrace.

A Terrace on a truss

For floating terraces, where it is not permissible to penetrate the foundation, i.e. where there is hydro-insulation or where the investor does not agree to penetrate the insulation, we must use self-supporting constructions in the form of a truss or frame made of composite joists, aluminium or steel profiles. It is also possible to use wooden joists with the technical specifications shown in Table 1. The construction must be stable, level and properly placed on the terrace with hydro-insulation. For the foundation of the terrace / depending on the waterproofing / dedicated supports for terrace joists, blocks or concrete slabs can be used.

HLD large composite joists are suitable for building frames or trusses, but must be supported at a maximum of every 50 cm. The leveled structure must be durably connected to the mounting bracket or wedges to ensure a stable construction even with heavy foot traffic.

The use of aluminium joists saves on the number of mounting brackets and wedges, as the support of an aluminium joist with a section of 40x60x2 mm can be maintained every 100 cm. This type of joist is recommended for decking in areas with heavy foot traffic. The aluminium joists must be durably connected to the dedicated supports so that the supports do not move.

For domestic applications, we can use a joist with a cross-section of 40x40x2 mm, their support should be maintained every 80 cm. This guarantees a stable construction of both the truss and the support frame. The aluminium joists must be permanently connected to the dedicated supports so that the supports do not move.

How do we build a truss?

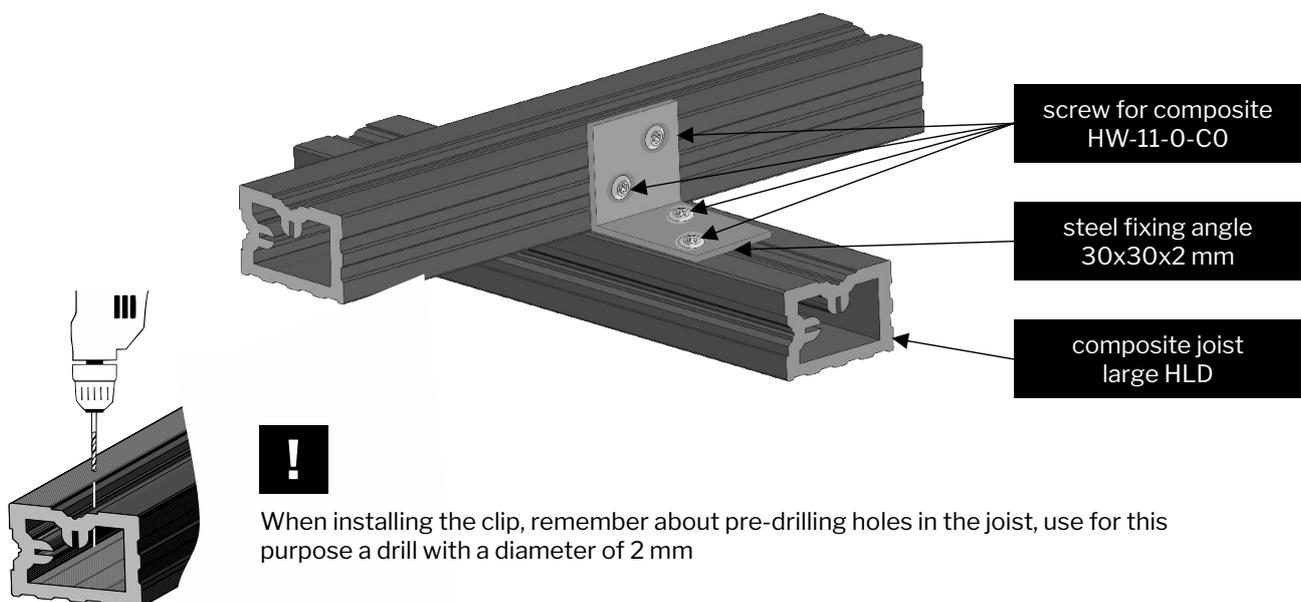
A carefully constructed truss is the basis for a stable terrace. The joists of the lower level are placed first. Depending on the planned board layout, place the first level joists parallel to the house wall - the boards will then also be placed parallel to the house wall, if the first level joists are placed perpendicular then the boards will also be placed perpendicular to the house wall. Then place the joists of the upper level perpendicular to the joists of the lower level, keeping in mind that the maximum distance between the joists is 50 cm (40 +/- 10 cm).

Connect the individual joist intersections with 30x30x2 mm fixing angles. The more secure the connection between the joists, the more stable the construction is. Special care must be taken at the terrace entrance thresholds.

Due to the fact that this is a frequently used footpath, it is advisable to construct the truss according to the picture provided. The support of the truss is best done at the intersections of the joists by supporting the bottom joist. Try not to support the joist between intersections unless it is an additional support.

For aluminium joists, support can be provided both at the joist intersections as well as between the ALU joist intersections, but always maintaining the required distance between the joist support areas.

Example of HLD composite joists on a truss.

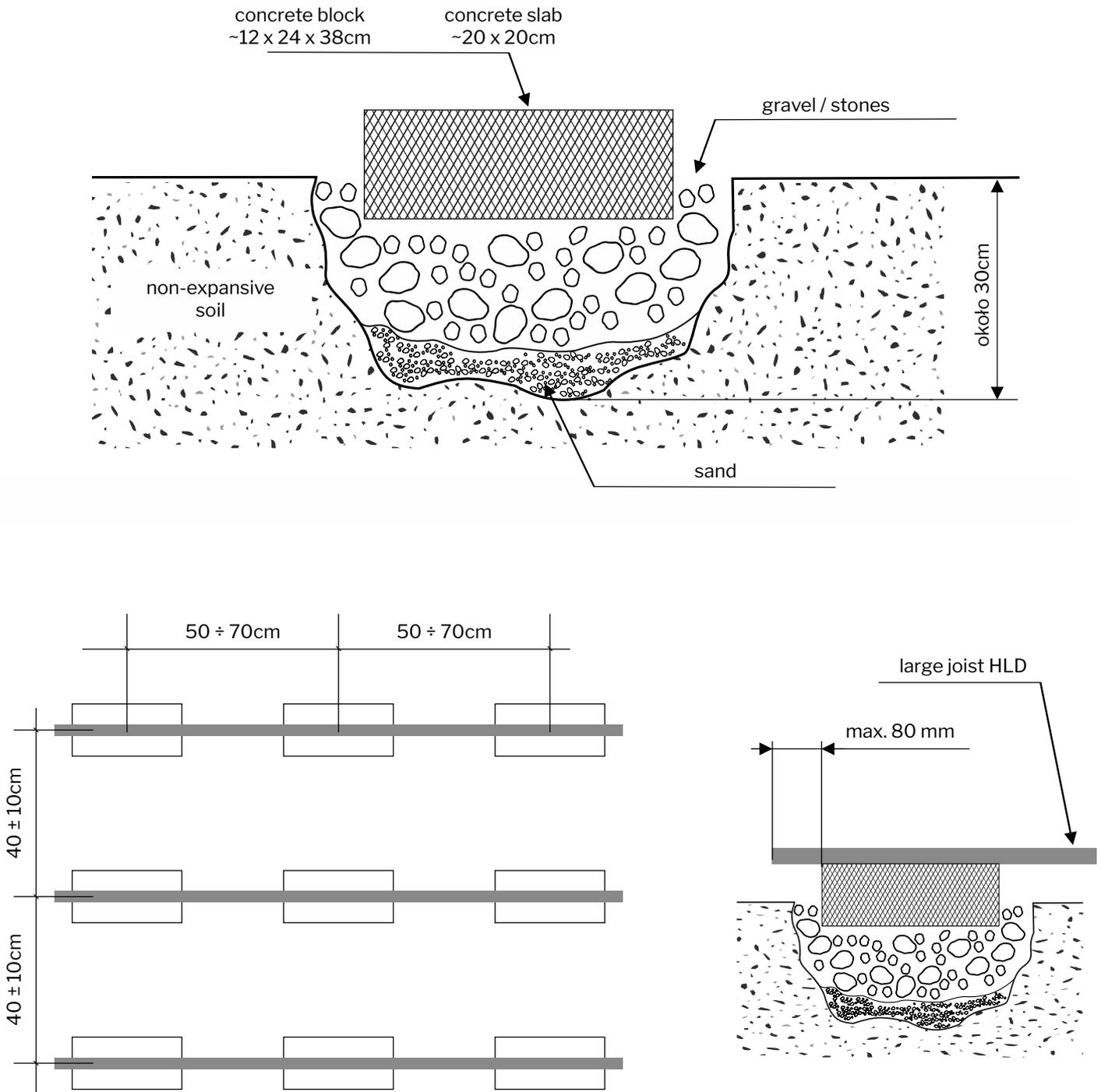


D**Other ways of anchoring joists to the ground.
Installation on concrete blocks.**

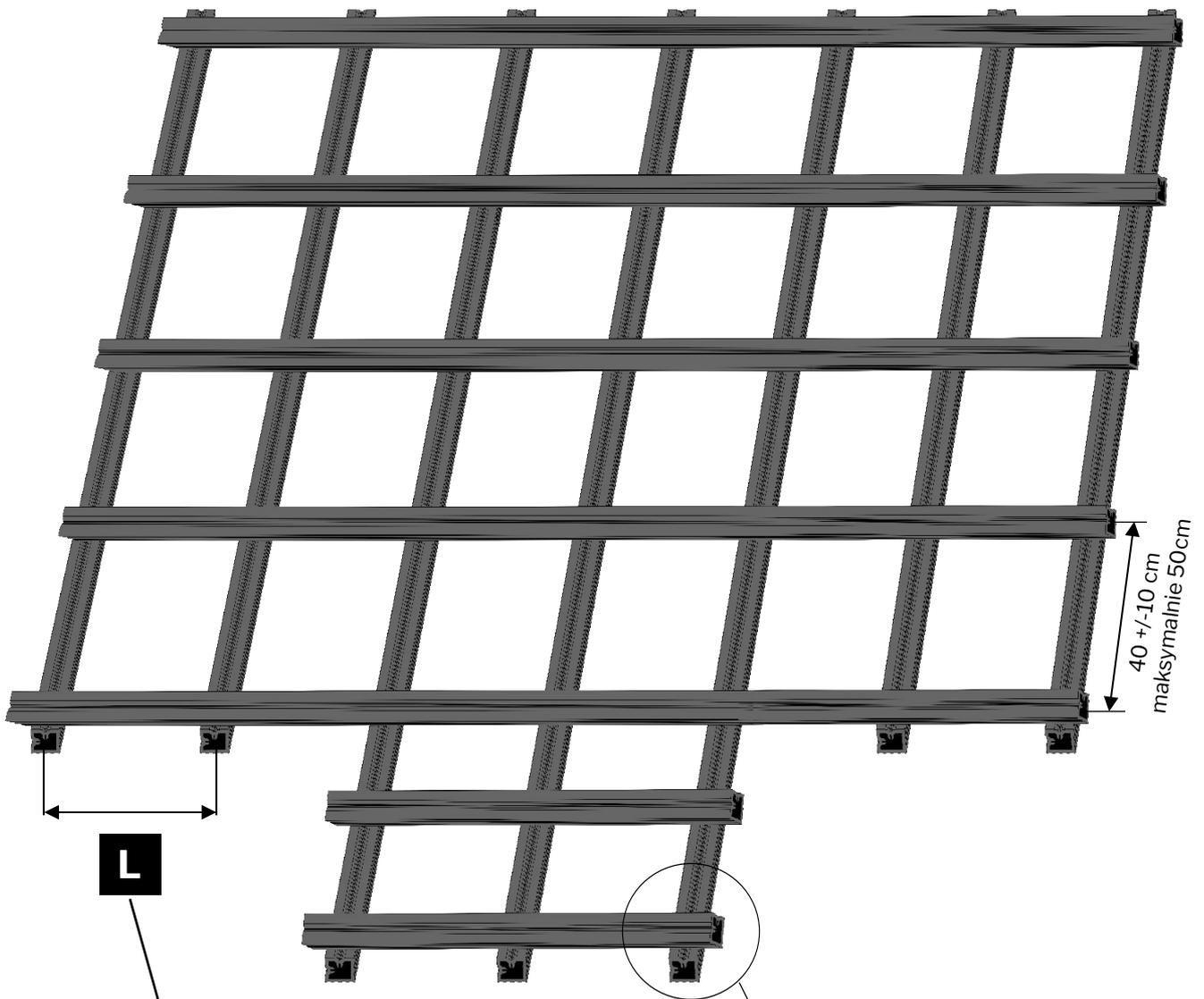
We can construct the terrace directly on the ground provided that concrete blocks are used, such as foundation block: 12x24x38 cm or concrete slab 20x20x6 cm. If the soil is not expansive (gravel, sand) then dig a hole about 30 cm deep, backfill with sand - up to 10 cm, then compact well with stone or gravel and place the concrete elements accordingly. Use an agro-textile fabric to prevent overgrowth of plants above the terrace level.

For a large WPC joist, the spacing between support points is a maximum of 70 cm counting from the middle point of the concrete element, or if you count the spacing between the edges of the concrete element, a maximum of 50 cm. The spacing between parallel installed HLD joists is 40 +/- 10 cm, but no more than 50 cm, depending on the intended use of the terrace. The drawing below shows the installation of the concrete block / slab and the construction of the HLD-composite support joists. The fixing of the joists to the foundation, i.e. to the blocks, is done with screws or angle brackets.

The same installation method on concrete elements can be used on terraces with hydro-insulation.

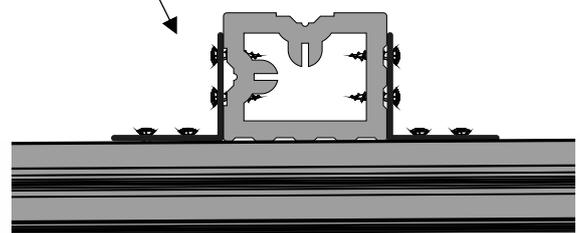


Truss constructed with HLD composite joists.



Required spacing for the different types of joists used to construct the bottom level of the truss:

Joist type	Required distance L in centimetres
Composite joist large Hartika HLD	50 cm
Aluminium profile 40x40x2 mm	80 cm
Aluminium profile 40x60x2 mm	100 cm



- Support of joists lying directly on the ground according to the table (bottom level of the truss)
- Support with brackets or wedges at the crossing of the joists HLD,
- Spacing of the joists on which the board rests every 40cm +/- 10 cm, not more than 50 cm (upper truss level)
- Plastic brackets / adjustable pedestals fixed to the joists
- All dimensions measured on axis

How do we build a stable support frame?

A carefully constructed frame is the basis for a stable terrace. The frame is used where there is no space for support (pedestals) or trusses and the distance from the starting threshold to the terrace surface is so small that we can only fit a board and one joist level.

The board layout is decided first. If the board is to be laid perpendicular to the house wall, the joists must be laid parallel. The distance from the parallel placed joists is a maximum of 50 cm (40 +/- 10 cm). Then cut the joists to strengthen the created structure and connect the placed joists with the transverse sections of the cut joists.

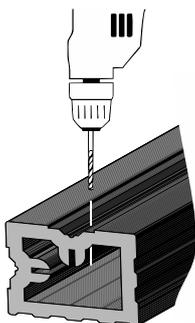
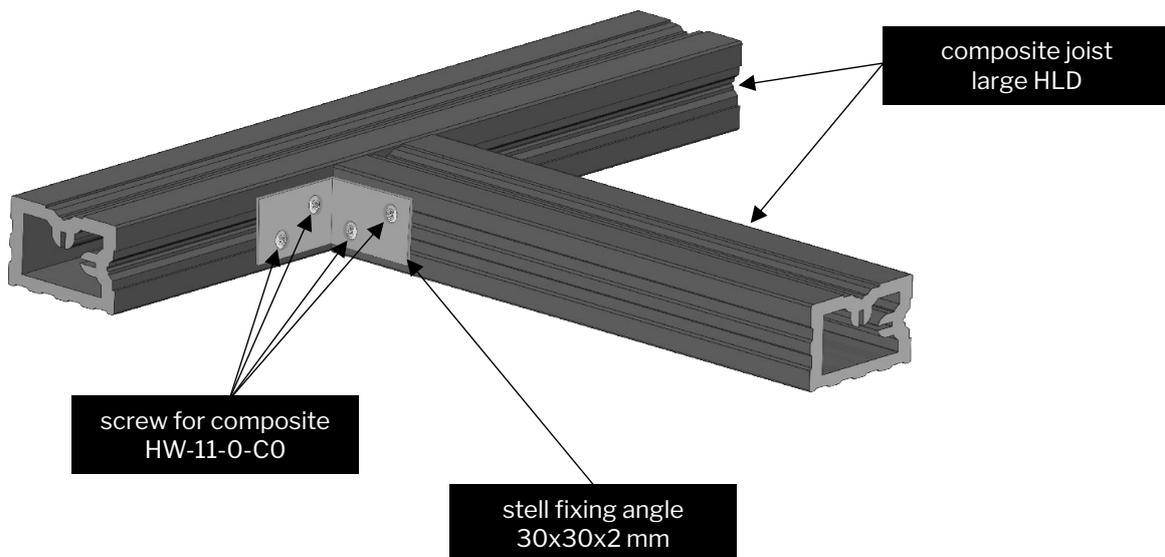
Joists are connected to each other with fixing angles of at least 30x30x30 mm or 30x60x60 mm. Special care must be taken at the terrace entrance thresholds. Due to the fact that this is a frequently used pedestrian route, it is recommended to construct the frame according to the enclosed drawing.

For thresholds wider than 100 cm, we recommend additional reinforcement as shown in the drawing. The support of the frame should be made so that the maximum distances of the support points for the different types of joists are maintained. Transverse reinforcement elements do not need to be supported unless this is necessary due to the footprint of the terrace to be laid.

Required maximum distances between support points of the joists:

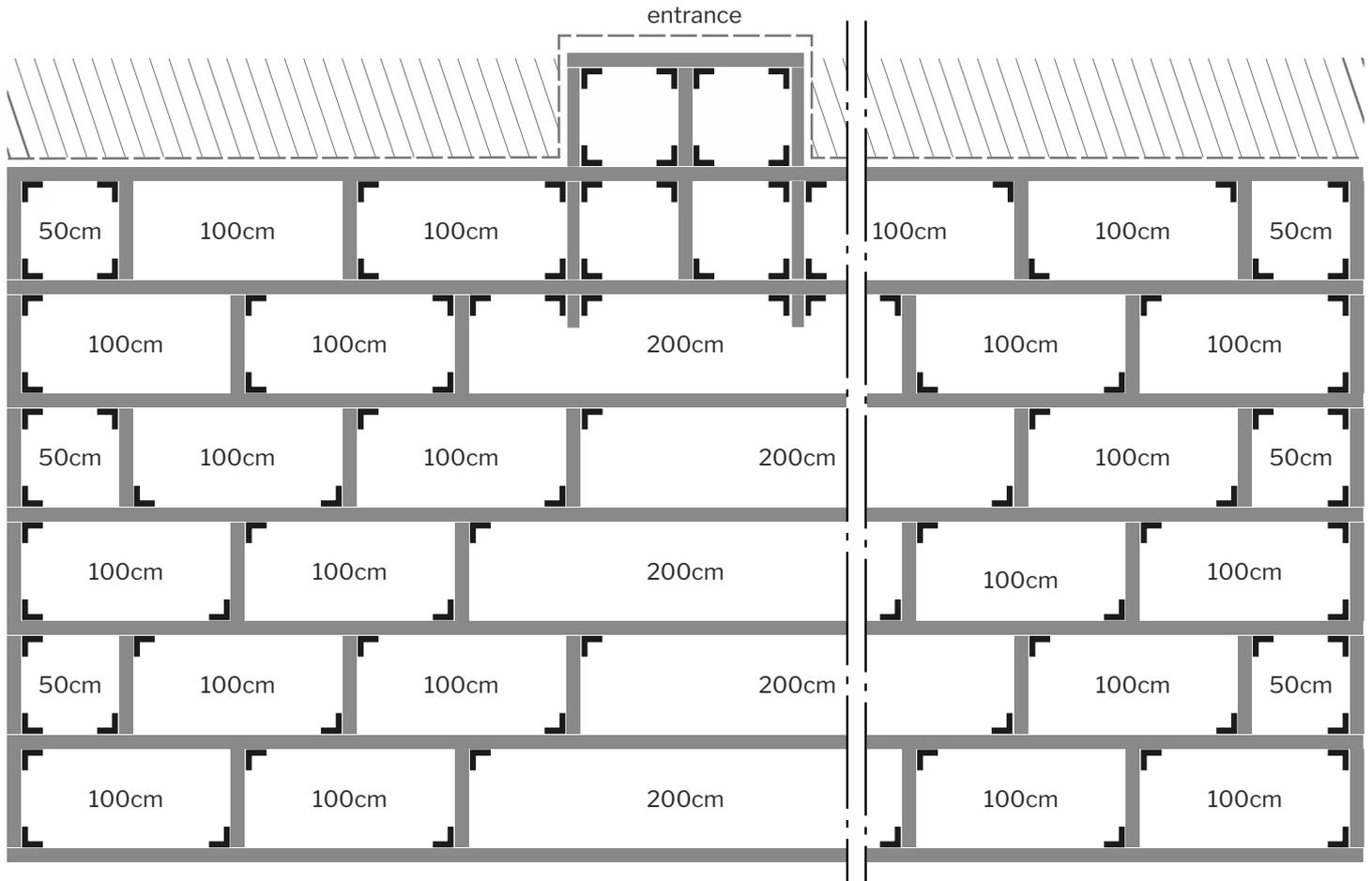
- HLD large composite joist - 50 cm
- Aluminium profile 40x40x2 mm - 80 cm
- Aluminium profile 40x60x2 mm - 100 cm

Example drawing of connection of individual elements of a frame made of Hartika large composite joist (symbol: HLD):



When installing the clip, remember about pre-drilling holes in the joist, use for this purpose a drill with a diameter of 2 mm

Example of frame construction on a HARTIKA system joist (HLD large composite joist).

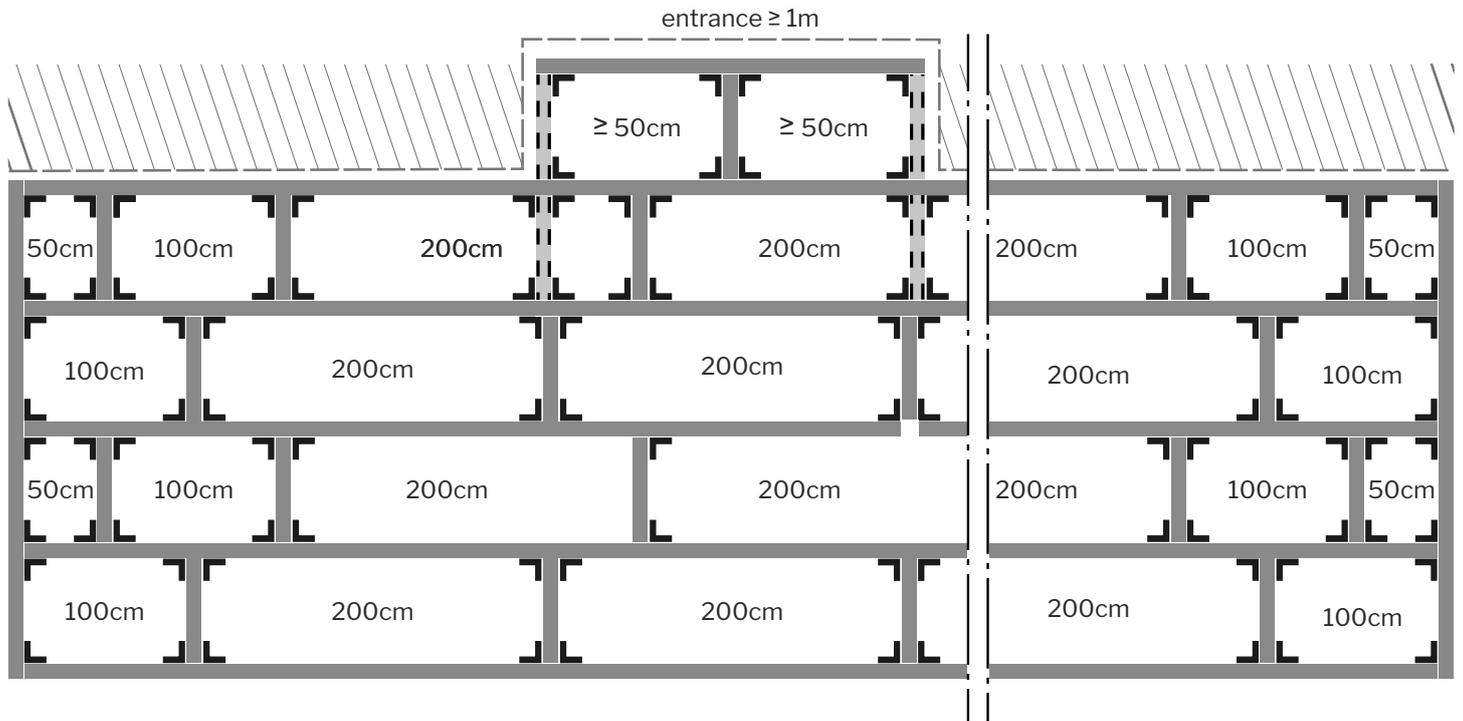


L - fixing angle 30 x 30 x 30

Layout and installation instructions:

1. Support the joists every 50 cm.
2. If the terrace is elevated, supports (pedestals, wedges) should be fixed to the joists.
3. Direction of boards: perpendicular to the house walls.
4. Spacing of the joists: 40 ± 10 cm, not more than 50cm.
5. All dimensions are given with the measurement on axis.
6. Examples of entrance solutions shown in the following diagrams.

Example of frame construction on a 40 x 40 x 2 mm aluminium profile (joist).

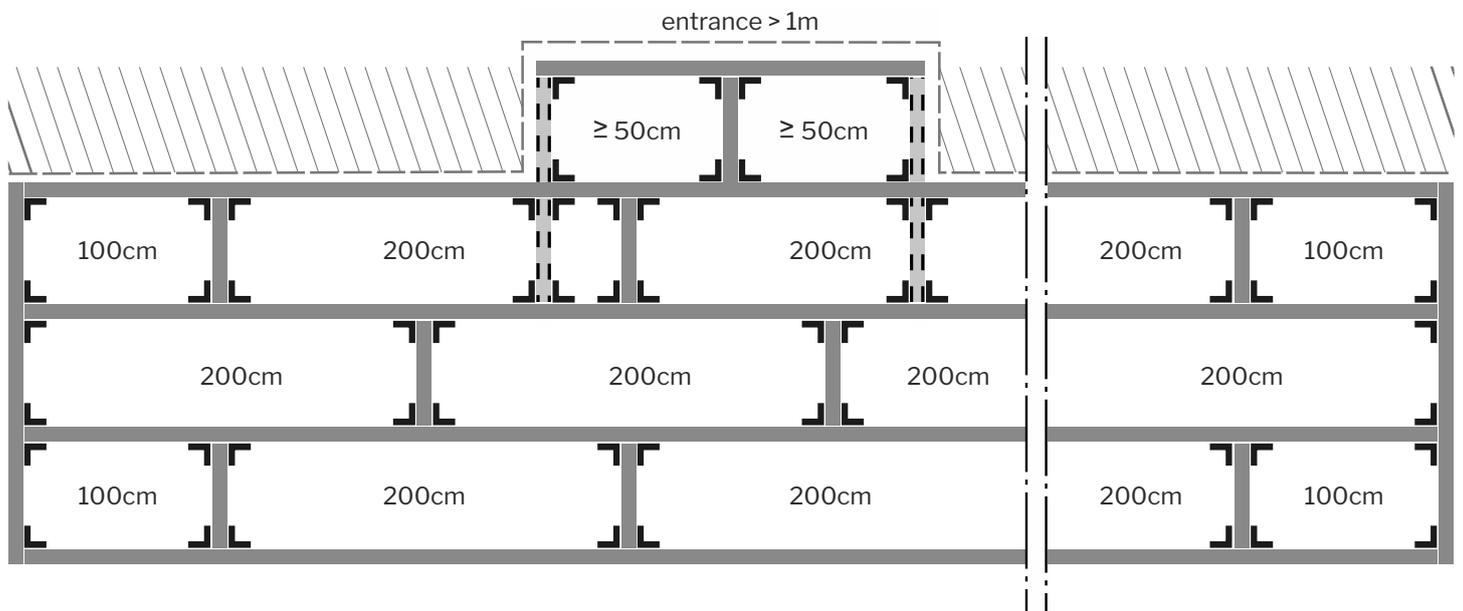


L - fixing angle 30 x 30 x 30

Layout and installation instructions:

1. Support the joists every 80 cm.
2. If the terrace is elevated, supports (pedestals, wedges) should be fixed to the joists.
3. Direction of boards: perpendicular to the house walls.
4. Spacing of the joists: 40 ± 10 cm, not more than 50cm.
5. All dimensions are given with the measurement on axis.

Example of frame construction on a 40 x 60 x 2 mm aluminium profile (joist).

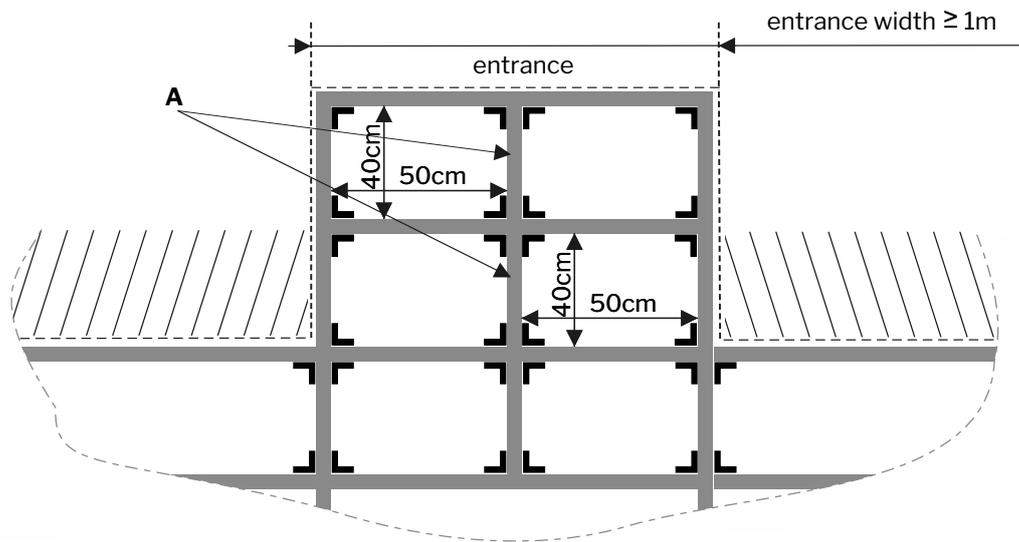


L - fixing angle 30 x 30 x 30

Layout and installation instructions:

1. Support the joists every 100 cm.
2. If the decking is raised, supports (pedestals, wedges) should be fixed to the joists.
3. Arrangement of the boards: perpendicular to the house wall where the door is located.
4. Joists spacing 40 ± 10 cm, not more than 50cm.
5. All dimensions are given when measuring on axis.
6. If the entrance width is min. 1m use a reinforcing aluminium joist every ≥ 50 cm.

How to make a terrace entrance correctly.



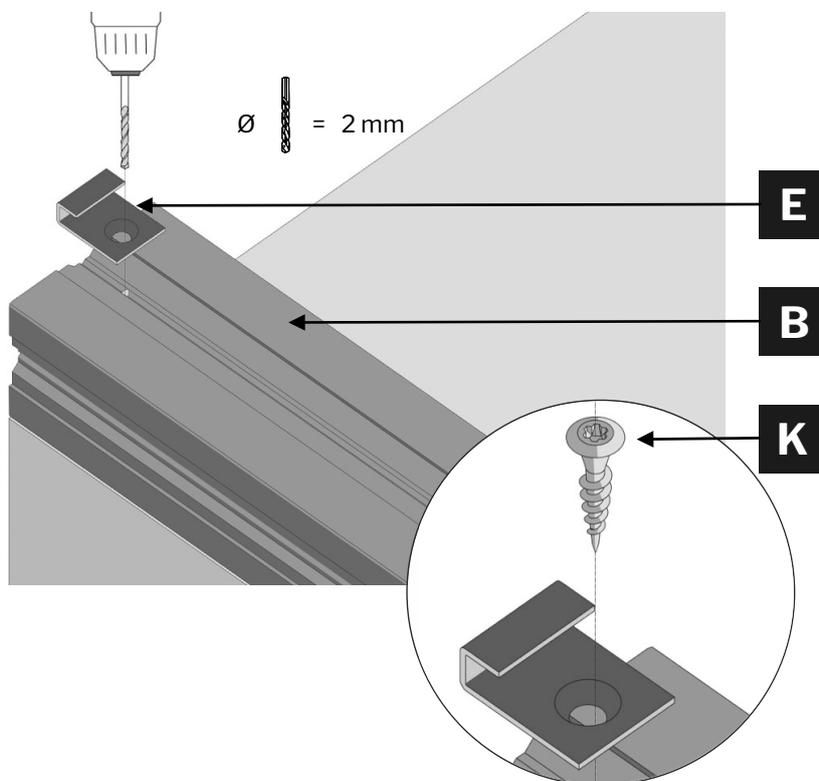
L - fixing angle 30 x 30 x 30

Layout and installation instructions:

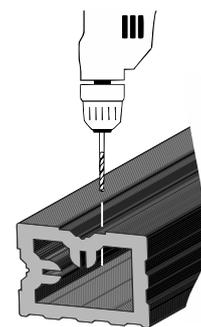
1. Support the joists every 50 cm.
2. If the terrace is raised, supports (pedestals, wedges) should be fixed to the joists.
3. If the width of the entrance is greater than 1 m, a distance of ≤ 40 cm between support joists must be maintained and reinforcing elements should be placed every ≤ 50 cm.
4. If the width of the entrance is less than 1m no reinforcing elements are required.
5. Distance between support joists ≤ 40 cm.

Installation of boards on joists.

1



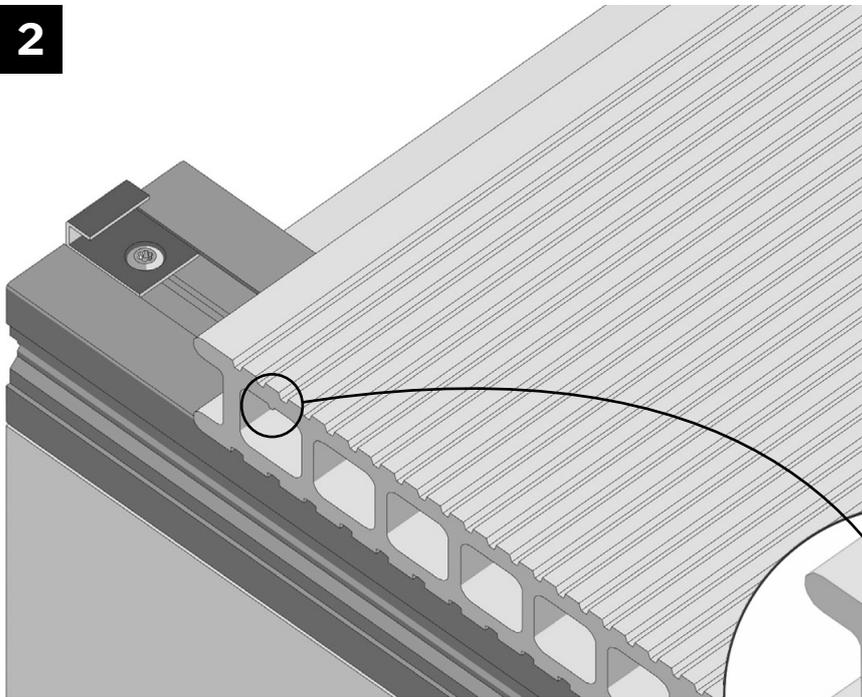
Installation of the boards starts with screwing the starter clips (HKS-01-0-6) **E** to the joists **B** with screws (HW-11-0-C0) **K**



!

When installing the clip, remember about pre-drilling holes in the joist, use for this purpose a drill with a diameter of 2 mm

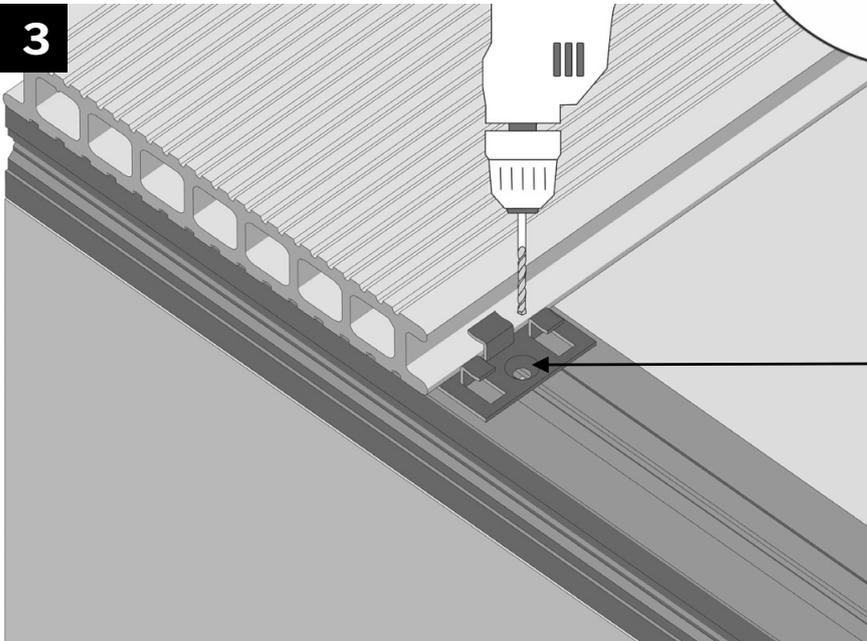
2



To ensure an even visual effect when laying the boards, pay attention to the grooving pattern and the brushing direction.

This will be helped by the inset which is located in the first chamber of the board. Each subsequent board should be placed in the same way.

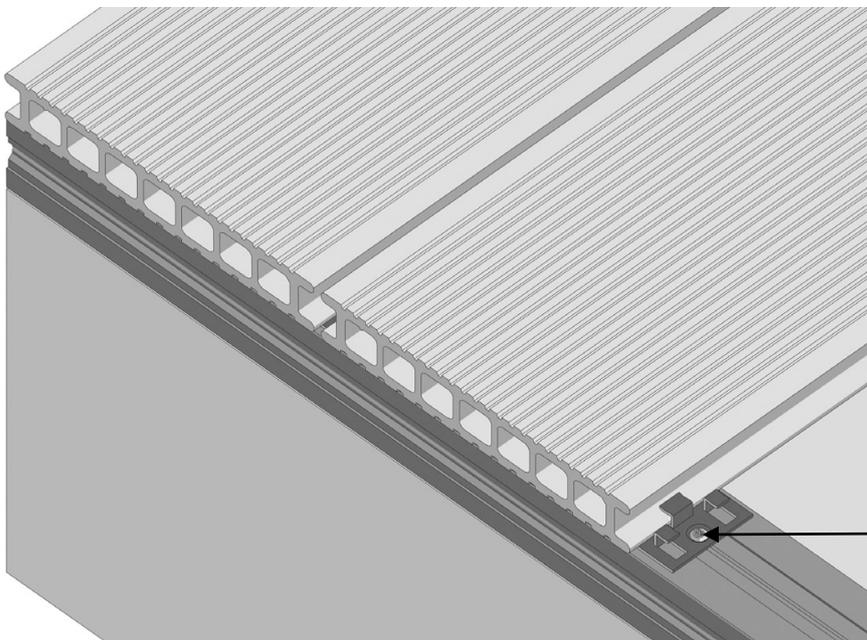
3



Next after inserting the tongue of the board into the starter clip, the middle clips **F G H I** (selected according to type of joist and expansion gap) should then be attached to the joists to create a 3 mm or 5 mm expansion gap between the boards.

G

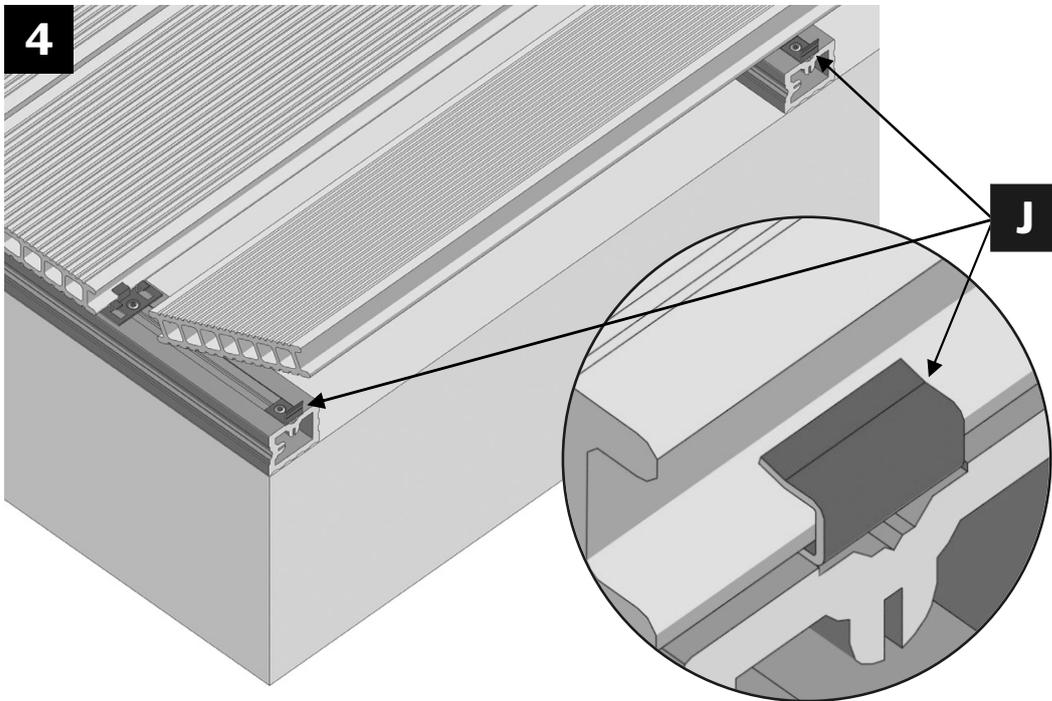
Attention.
The drawings show how to fix the boards with the middle clip (HKS-03-0-6) **G**



K

Once the joist has been drilled, the middle clip should be attached with a screw, depending on the chosen type of joist and gap it can be:

- HW-11-0-C0 **K**
- HW-04-0-C0 **L**
- HW-06-0-C0 **M**



Before installing the last board, first fix the end clip **J** to the joist then insert the board. When the last board is on the joist, use pliers to tighten the end clip.

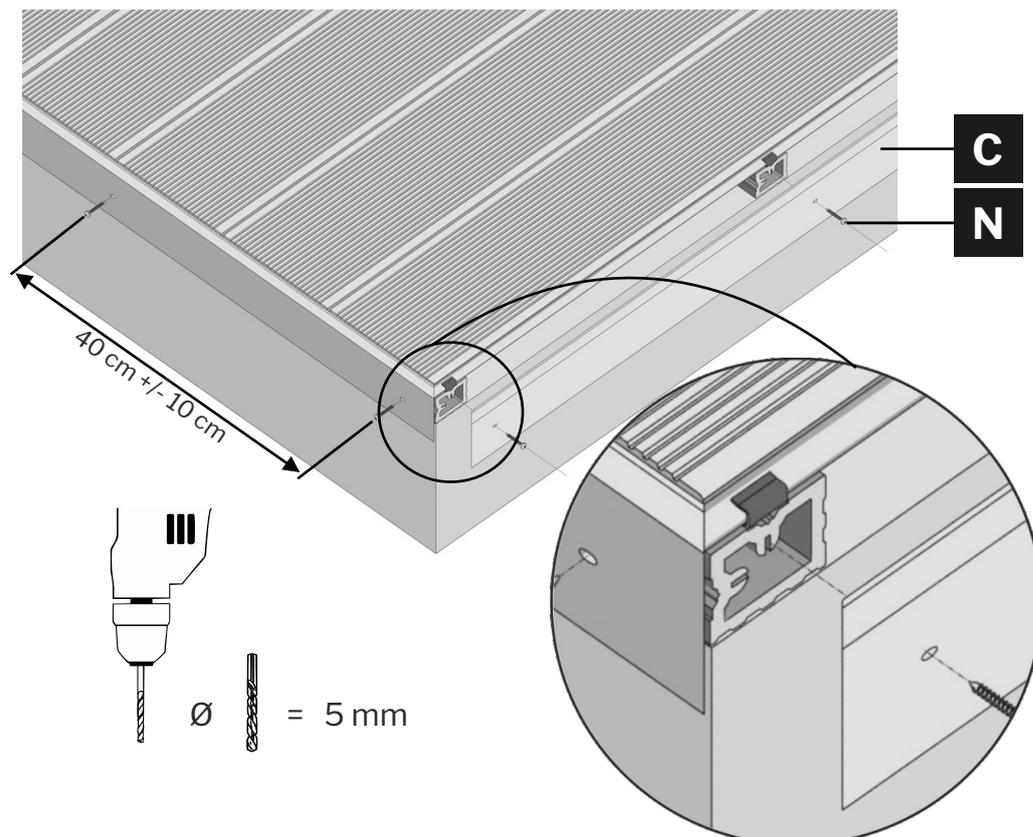
Terrace finishing.

To finish the terrace use either WPC end strips **C** or aluminium F profile **D**. For fastening use a dedicated screw (HW-02-0-CO) **N**

NOTE!

The HW-04-4 angle cover strip is dedicated to areas outside intensive pedestrian traffic. For finishing passageways, entrances etc., use the flat cover strip (HW-03-4) or aluminium profile F (HLA-01-4). These provide greater durability of the finishing treatment under conditions of intensive use.

Installation of end strip.

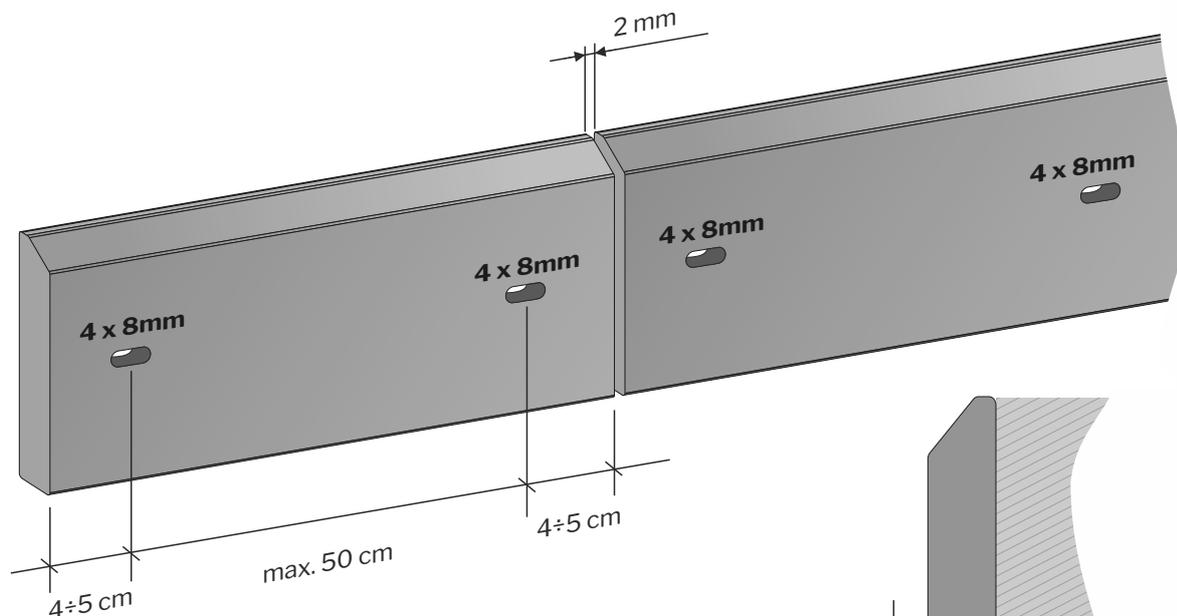


When fixing the composite end strip, a hole needs to be reamed with a \varnothing 5 mm drill.

Alternatively, a 4 mm drill can be used by reaming a bean-shaped hole with it. This will ensure that the end strip can operate under temperature.

The end strip is to be fastened with screws spaced at 40 cm intervals with a tolerance of 10 cm.

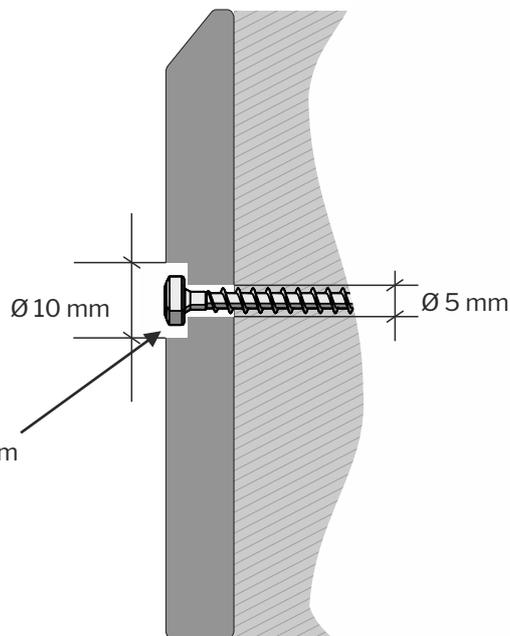
How to properly place and drill the fixing holes in a WPC end strip.



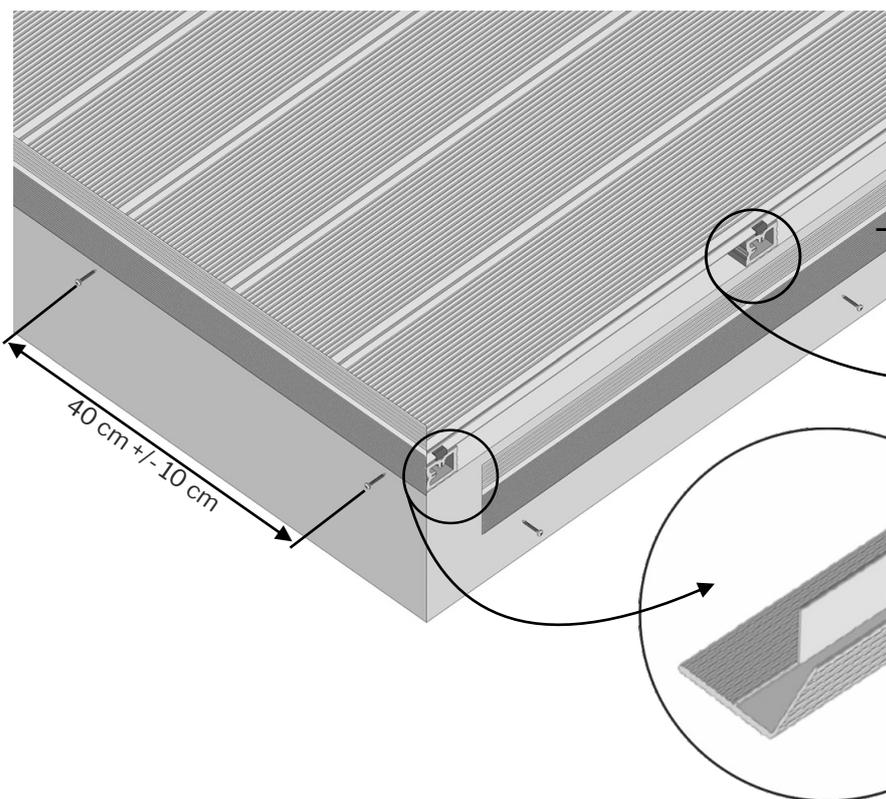
The installation of the WPC end strip must be carried out in such a way as to ensure that the strip can work longitudinally under the influence of temperature.

Making the holes as shown in the drawings will ensure that the end strip can move. Fasten the end strip with screws every 40 cm with a tolerance of +/-10 cm as the joists are placed.

Drilling to a depth of 2 mm



Installation of aluminium profile F.



The installation of an aluminium strip with profile F is similar to the installation of the composite end strip.

The only difference is that the lower F leaf must be cut at the collision points with the joist.

D

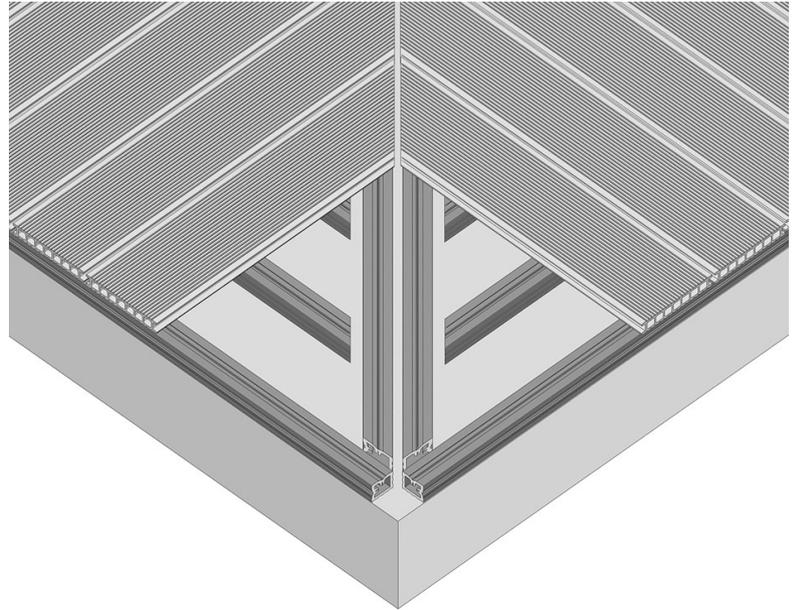
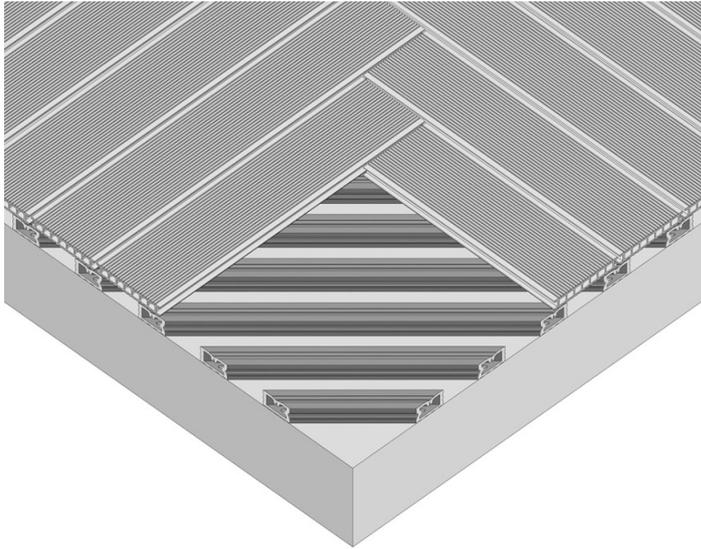
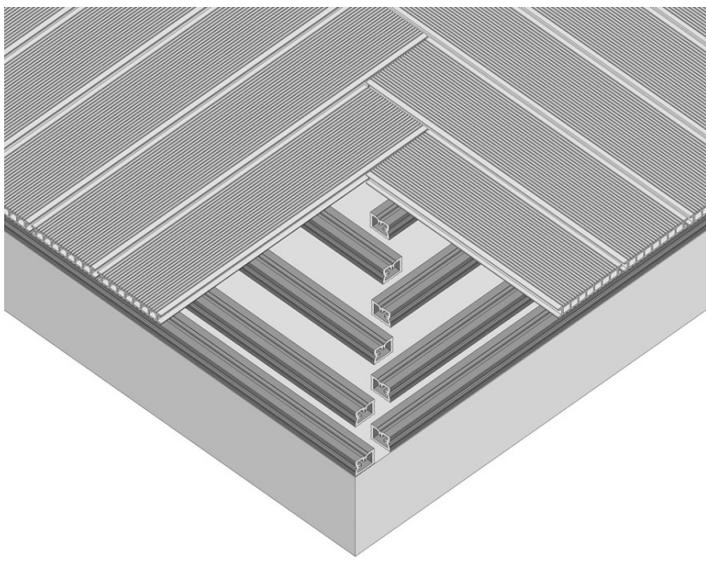
Other joist layouts

Depending on the chosen laying pattern, the joists have to be placed under the boards in a suitable way.

If you choose the herringbone pattern, lay the joists in such a way that the boards always have a place of support at their beginning and end.

ATTENTION!

The board can be protruded behind the joist line by max. by 5 cm.



Architectural features

Terrace boards can be used for the development of architectural elements such as:

- sandpits,
- ventilation shafts,
- waste bins
- enclosures for fixed elements
- landings
- stairs.

The entire composition will provide an aesthetically pleasing appearance and harmony provided the basic rules of installation are followed.

For such work, the same rules apply as for the installation of boards on terraces, the following rules must be observed particularly:

- keep a distance from fixed elements,
- Do not weaken the decking by cutting chambers in the decking,
- Screw the WPC finishing strips through a bean hole or a hole with a diameter of 1-2 mm larger than the fixing screw so that temperature changes allow the strips to move freely.
- do not use centre clips between the front of adjacent boards - the board must be thermally worked along its length
- Fix the boards with clips as described for decking,
- Fix the planks in such a way that no water can stand in them, as in winter accumulated water will burst the chambers of the plank, especially when the plank is installed vertically, ensure free water drainage at the bottom.
- Do not screw the boards down directly with screws, use clip sets for fixing.
- If possible, finish the corners with the finishing strips of the Hartika system to protect the corners effectively against mechanical damage.
- Composite, aluminium or wooden joists can be used as the structure under the board.

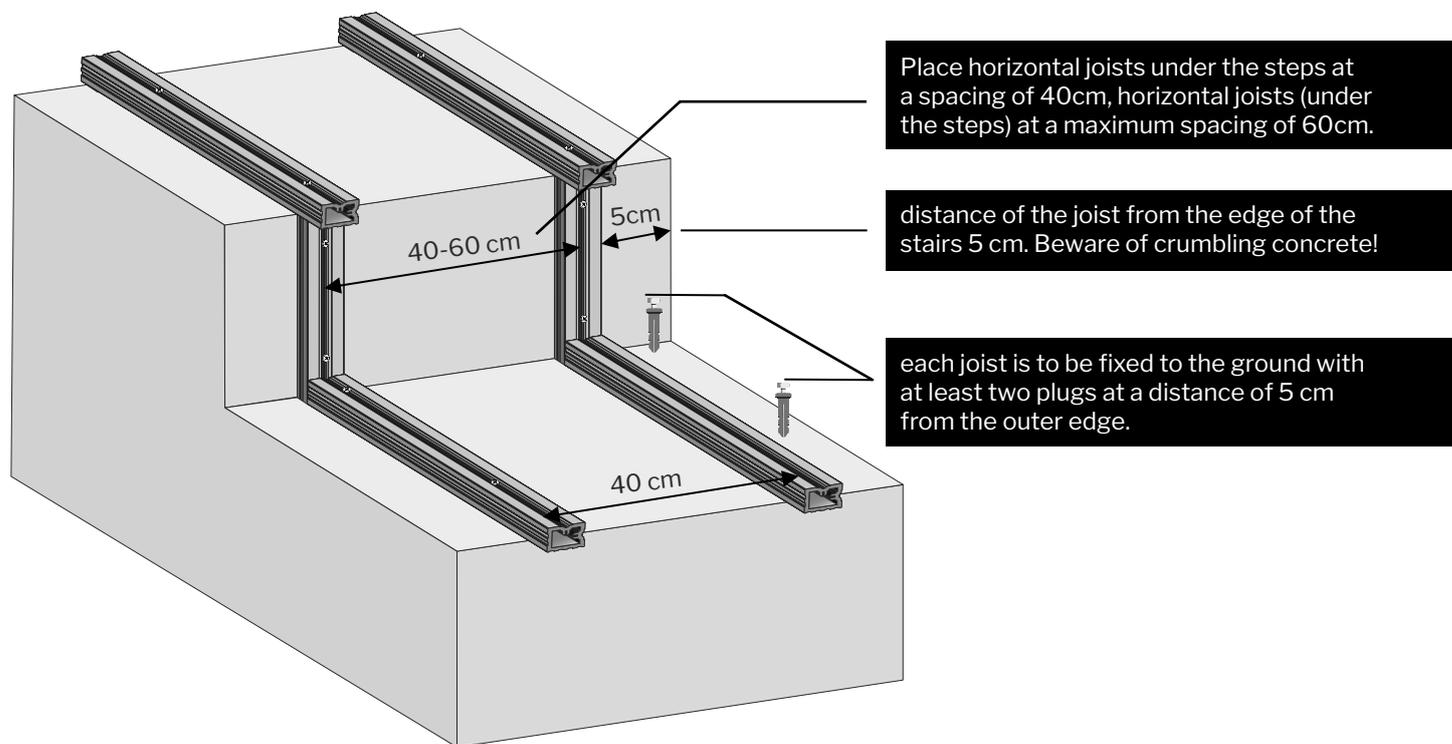
Installation of composite system in a staircase

Using a terrace board, you can finish the steps of your terrace. Our boards are ideally suited for building 'good stairs'.

A good staircase is a comfortable staircase with the following dimensions:

- very comfortable stairs - step height 15 cm, step width 32 cm
- comfortable stairs - step height 16 cm, step width 30 cm
- average stairs - step height 17 cm, step width 29 cm.

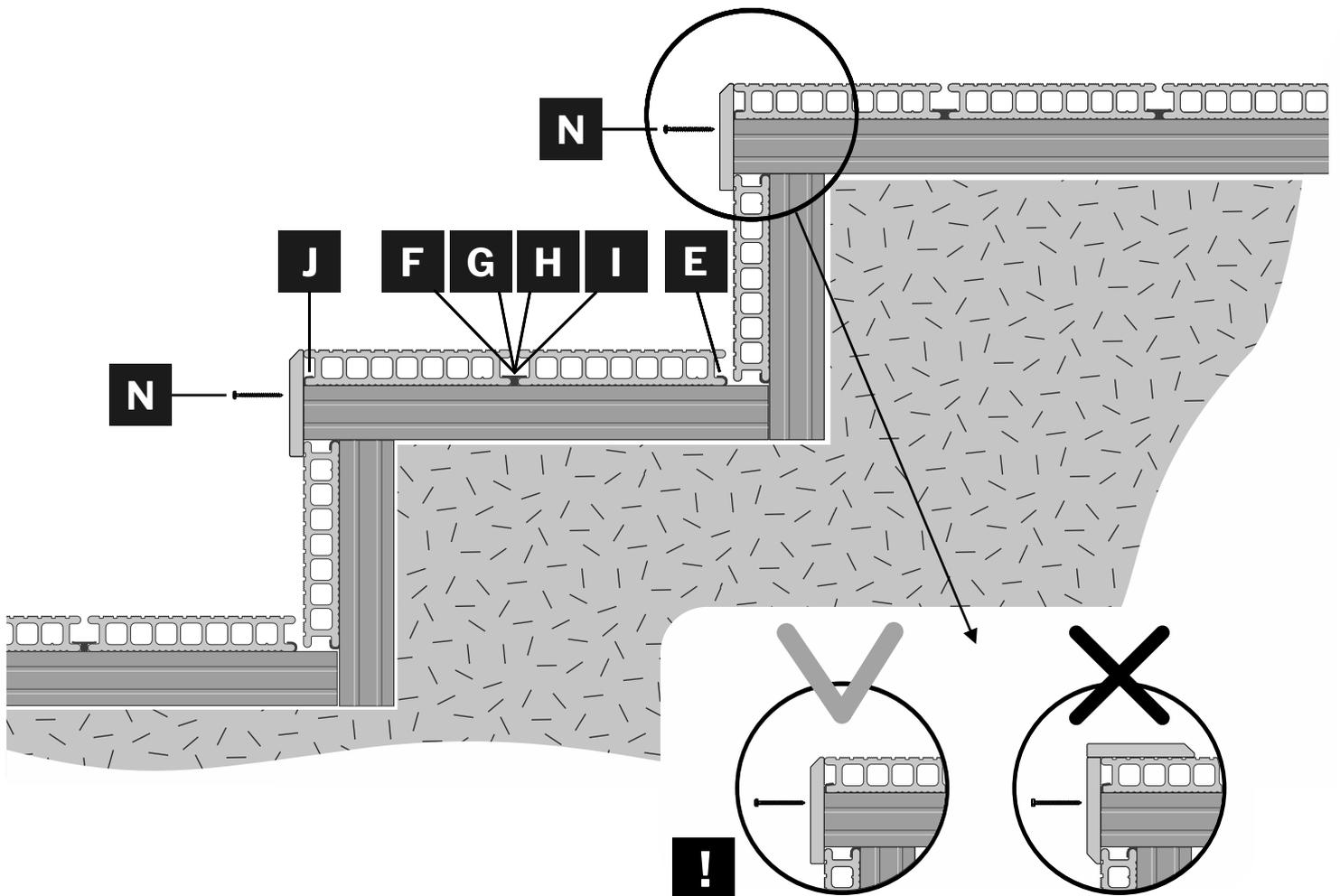
Using a board with a width of 145 mm or 160 mm we can always bring the stairs out to be at least a comfortable stair.



Installation guidelines:

1. Fix the joists to the ground with screws (plugs), the first fixing screw at a distance of min. 5 cm from the edge.
2. Use a minimum of two plugs per joist.
3. Use end and starter clips alternately.
4. Recommended spacing of joists on steps +/- 40cm.
5. Recommended joist spacing on risers is 40-60cm.
6. The nose of the step and the cheek should be finished with a WPC end strip (HL-03-4)

The schematic diagram of the board layout on the stair cover is presented on the next page.

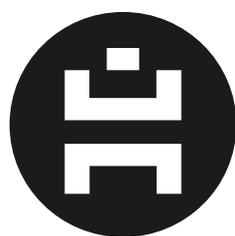


To finish the edges of the step, use the WPC flat end strip by mounting it on the riser (vertical board). The fixing of the strip to the end of the step (horizontal board) risks damaging it or tearing it off, as it will be exposed to the forces and loads resulting from movement.

Pielęgnacja tarasu

Please read the instructions for use and maintenance of the terrace on our website at the following link www.hartika.com or use the QR code below:



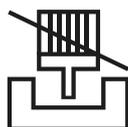


hartika

wood composite system



**BIOCOMPOSITE
ENVIRONMENTAL
PRODUCT**



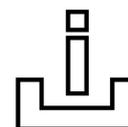
**NO IMPREGNATION
REQUIRED**



**MANY TIMES
MORE DURABLE
THAN WOOD**



**RESISTANT TO
DIFFICULT WEATHER
CONDITIONS**



**PROFESSIONAL
TECHNICAL
INFORMATION**



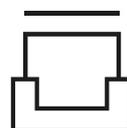
**25
YEAR GUARANTEE
AGAINST DECAY,
ROT AND INSECTS**



**3
YEAR GUARANTEE
AGAINST CRACKS
AND DEFORMATIONS**



**ORIGINAL
DESIGN**



**COMFORT
OF USE**



**PROFESSIONAL
LOGISTICS**



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