

A photograph of a modern outdoor deck. The deck is made of light-colored wooden planks. In the foreground, there is a lounge chair with a brown frame and a white cushion. To the right of the chair, there are two tall, white, abstract vases. The background shows a wooden wall and a view of trees. The sky is visible through the wooden slats of the roof.

d decking

- installation manual -



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Norms and warnings

GENERAL NORMS

- The respect of the here below indications guarantees a professional installation and the warranty of the producer: please, read closely before beginning the installation.
- Ravaioli provides the materials and the installation system, not the project. This one has to be developed in compliance with what is being established by the Italian norm UNI 11538-1 on the decking for outdoor floorings. Structural calculations, projects and testing are at the expenses of the customer/architect.
- It is always important to respect the standards of security while working, both during the assembly phase and during possible inspections. Use adequate tools in compliance with the norms in force.

VERIFYING OF THE PROJECT

- Based on the project to be realized, please verify:
 - Heights and squaring based on the flatness and linearity of the area;
 - Points of outflow of rainwater where possible obstacles may have been created by the substructure, based on the orientation of Deck Boards, Modules and Deck Tiles.
- In compliance with the norms in building materials and based on the executive project you have, **it is advisable to install the flooring with a 1% slope** (pic. A) in order to aid the outflow of the water and avoid stagnation, humidity and mold which may compromise the durability of the flooring.



picture A

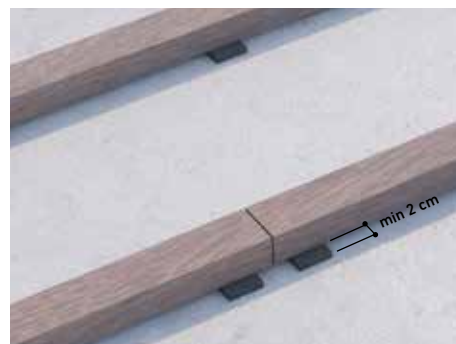
EVALUTION AND PREPARATION OF THE SUBSTRATUM

- Verify that the surface is solid, stable, smooth and free of surface irregularities.
- Clean the surface carefully.
- Verify the drainage point of rainwater based on any possible obstacle created by the substructure.
- Verify carefully slopes, levels and possible deviations from perpendicularity which may invalidate the flatness of the area.
- In case of installation upon screed, please consider carefully the kind of surface: **in case of waterproof screed, YOU SHOULD NEVER DRILL, but use glue for fixing** (pic. B).



picture B

- To avoid a possible rotting of the wood, **do not put the wood in contact with the ground** and guarantee the necessary ventilation and the rainwater outflow. To do so, use the specific rubber spacers (see the Ravaoli decking pricelist), which have to stick out at least 2 cm from the joist upon it (pic. C)
- In case of high slopes of the ground and of the necessity of creating a flat surface, please make sure to position the spacers first in the area with the lower slope and to continue towards the highest slope.
- In case of installation upon unstable ground (soil, sand, gravel, etc.), please have a look at its dedicated section at pg. 12, after reading the chapters *Spacing and Lifting supports* (see pg. 8) and *Substructure installation* (see pgs. 9 and following).



picture C

DECKING SYSTEM

- The correct decking installation is made by proceeding on rows (pict. D) and not on columns (pict. E). This is to avoid structural problems and aesthetical defects. It is advisable to install the deck boards in a staggered fashion.

- The distance between the substructure joists depends on the kind of structure, on the wood species and on the kind of installation. Always respect the following maximum distances:

- substructure joist of the first frame max 70 cm
- substructure joist for installation with visible screws max 60 cm
- substructure joist for installation with clips max 45 cm

- Always respect the following minimum distances from the fixed building elements (walls, slabs, structures, etc. - pic. F):

- between deck board butt joints and fixed elements min 5 mm
- between deck board sides and fixed elements min 10 mm
- between substructure joist butt joints and fixed elements min 5 mm
- between substructure joist sides and fixed elements min 10 mm

- It is advisable to leave a minimal lateral distance between the deck boards (gap) of 5 mm (pic. F), in order to avoid problems due to the natural dilatation of wood. The dimensional tolerances Ravaoli refers to are established by the new Italian norm UNI 11538-1 concerning decking.

- The deck board doesn't have to stick out from the substructure joist more than 3 cm.

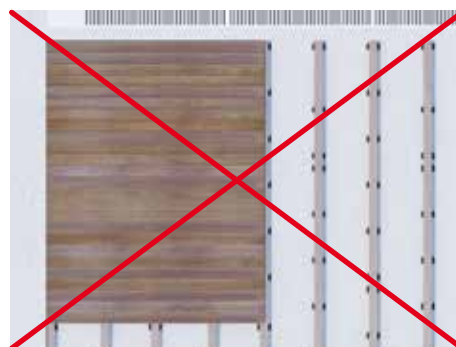
- For a correct installation, the butt joints of the deck board have to end on a substructure joist and be screwed in it.

- Normally, the thickness of the substructure joist should double that of the deck boards. Please, take this into consideration during the design phase.

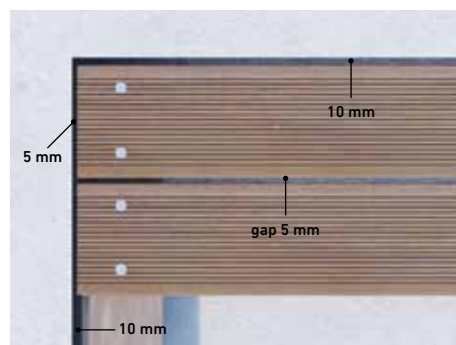
- It is strongly recommended to pre-drill the deck boards, especially in case of exotic woods or thick deck boards, in order to ease the insertion of screws, to avoid tensions which may cause ruptures and breaks into the wood and to better respect the lateral distances here above indicated.



picture D - correct installation: the installation is made along rows, with a staggered fashion.



picture E - wrong installation: the installation is made along columns.



picture F

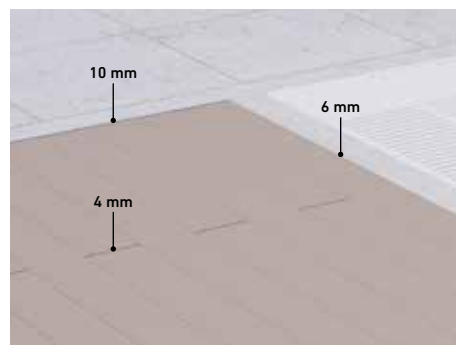
- Deck boards are usually provided with no cut on heads. In this case, the joint milling, compulsory, has to be done by the installer on the construction site. As an alternative, Ravaioli Legnami can also provide a joint milling service (advisable) which already includes the application of a protective product on the butt joints.
- On every cut done on the construction site it is compulsory to apply a protective product (Pic. G).



picture G

FASTCLICK SYSTEM

- FastClick System is the installation system made of an alluminium substructure and special pre-assembled clips in nylon which allows an interlocking installation of the deck boards by simply pressing with a foot.
- The WPC material may suffer thermal expansion till 1 mm/m. It is advisable to install the deck boards when the temperatures are not too high. Before the installation it is also advisable to accurately measure the lengths of each deck board. They will have to be constantly rechecked during the installation process.
- If installing WPC deck boards, always respect the following minimum distances from the fixed building elements (walls, slabs, structures, etc. - pic. H):
 - between deck board butt joints and fixed elements min 10 mm
 - between deck board sides and fixed elements min 6 mm
 - between substructure joist butt joints and fixed elements min 10 mm
 - between substructure joist sides and fixed elements min 6 mm
- If installing WPC deck boards, always leave at least a 4 mm gap between the butt joints of the deck boards (pic. H).
- If installing wooden deck boards, always respect the following minimum distances from the fixed building elements (walls, slabs, structures, etc. - pic. I):
 - between deck board butt joints and fixed elements min 5 mm
 - between deck board sides and fixed elements min 10 mm
 - between substructure joist butt joints and fixed elements min 5 mm
 - between substructure joist sides and fixed elements min 10 mm
- The distance between the substructure joists depends on the deck board chosen for the realization of the flooring (see Ravaioli decking pricelist):



picture H



picture I

Deck board	Distance between joists
WPC	35 cm
Asian and Burmese Teak	40 cm
Ipè 25x90x1,200/1,800 mm	60 cm
Ipè 25x140x1,200/1,800 mm	60 cm
Thermo Bamboo	46.2 cm

- The deck board doesn't have to stick out of the substructure joist for more than 3 cm.

- For a correct installation, the butt joints of the deck board have to end on a substructure joist and be fitted in it.
- The wooden deck boards for the FastClick System are already provided with a cut on heads. The application of a protective product for the butt joints is already included.
- **On every cut done on the construction site it is compulsory to apply the protective product specific for that kind of wood (pic. G pg. 5).**

MODULE SYSTEM

- **Always respect a minimal distance of 10 mm from the fixed building elements (walls, slabs, structures, etc. - pic. L).**
- For the Barcode Module and Zip Module it is compulsory to distribute the different dimensions of the platforms in equal quantities in order to make the flooring more stable and aesthetically more appealing (pic. M).

DECK TILE SYSTEM

- **Always respect a minimal distance of 10 mm from the fixed building elements (walls, slabs, structures, etc. - pic. N).**
- According to the correct installation of the wooden deck tiles, they should be alternatively placed in different directions (chess-board design).

MATERIAL STORAGE

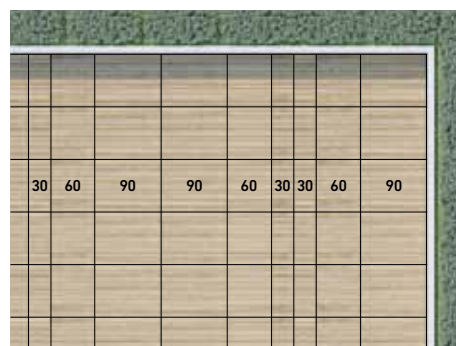
- The goods are delivery by Ravaoli in pallets packed with metal straps and stretchable plastic wrap around it. The pallets have to be stocked in an area sheltered from adverse weather conditions, sunlight and high temperatures until the installation. Once the pallets are opened, in case the material is not immediately used, it has to be stocked in a sheltered area as above described or closed once again with metal straps.
- Before the installation, it is compulsory to wash the deck boards, unless they are been previously pre-oiled, in order to prevent colorations due to the tannin of the wood (although rare in the Ravaoli woods) and to eliminate dirt residues due to the manufacturing.

MAINTENANCE

- After the installation it is advisable to wash the flooring and, if it is a wooden flooring, to oil it once it is dry (after around 72 hours) with two coats of a specific Ravaoli oil for exterior decking (pic. O). Ravaoli can also provide pre-oiled deck boards (recommended choice).
- Color changes and the graying process are natural effects on wood when it is exposed to atmospheric agents: in order to avoid this, a regular maintenance with specific products is recommended (see pg. 36).



picture L



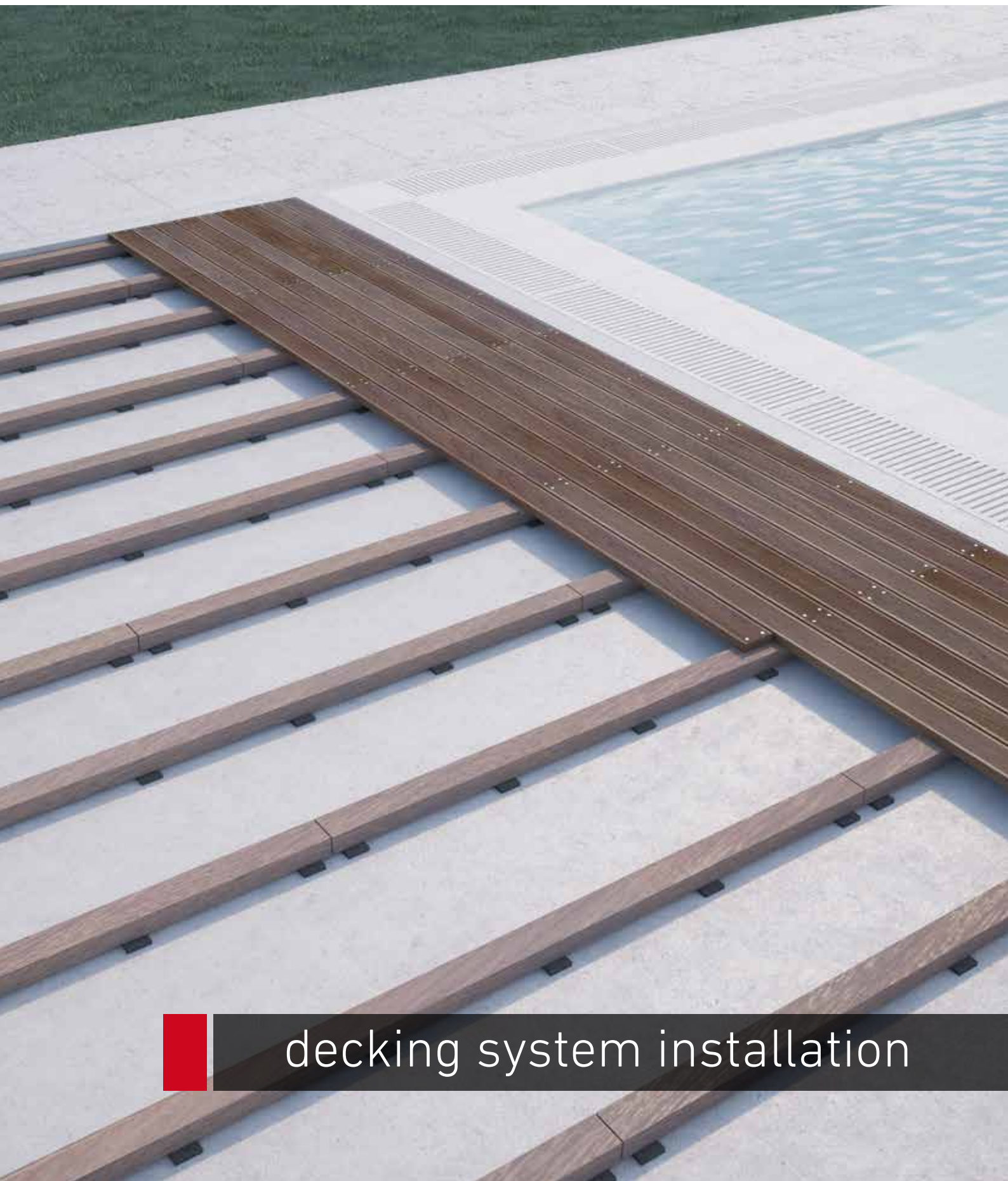
picture M



picture N



picture O

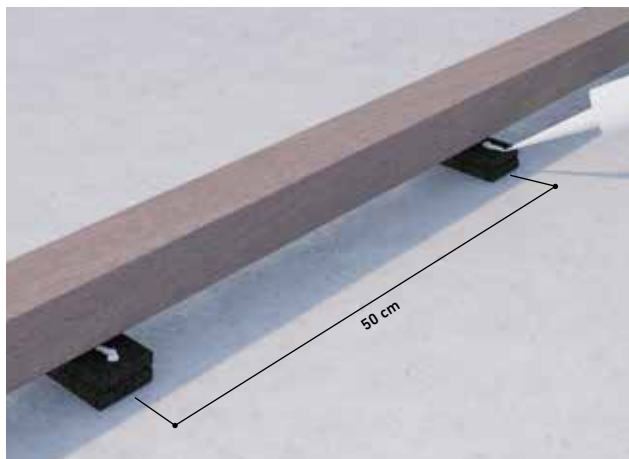


decking system installation

SPACING AND LIFTING SUPPORTS

Rubber spacers

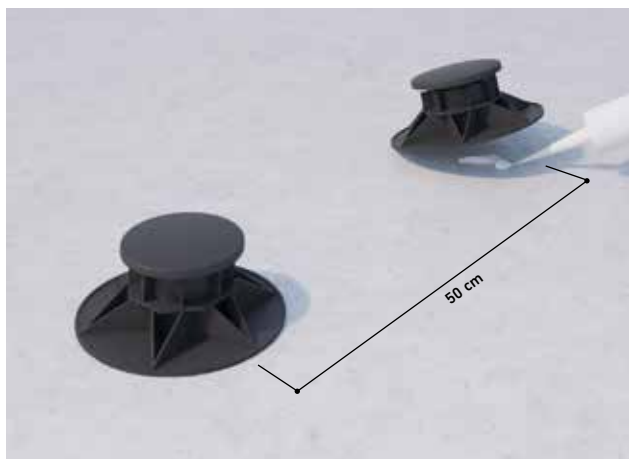
In order to avoid to put the wood and the below ground in contact and to cause rotting by guaranteeing the ventilation of the substructure, use the specific rubber spacers (see Ravaoli decking pricelist).



- Calculate the right positioning of the rubber spacers (it is advisable to keep them 50 cm apart).
- If necessary, glue together two spacers in order to increase the total height.
- Glue the spacers to the substructure joist (compulsory).
- Glue the spacers to the ground (recommended).

Lifting supports (jack-supports)

In order to create structures with a height over 10/12 cm, use the appropriate lifting supports (also called jack-supports - see Ravaoli decking pricelist), available in different heights.



Fixing of the lifting supports to the ground

- Calculate the right positioning of the lifting supports (it is advisable to keep them 50 cm apart).
- Position the lifting supports and anchor them to the ground by using some glue.
- Position the substructure joists in the middle of the headpiece of the lifting support.

Fixing of the substructure joist to lifting supports

- If necessary, regulate the height of the headpieces by using its nut.
- Fix the joist by using glue or a screw. As an alternative to the flat headpieces, it is also possible to use the adjustable headpiece with 2 wings or 1 wing (see Ravaoli decking pricelist).

SUBSTRUCTURE INSTALLATION UPON SCREED

Preliminary evaluations

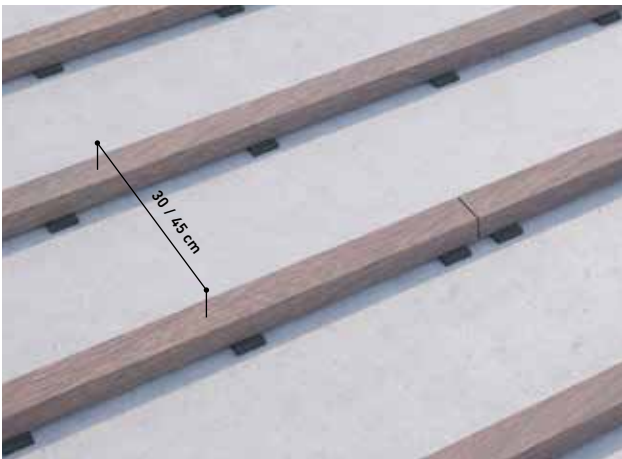
In case of installation upon screed, verify if the ground is waterproof or if it is possible to drill the substratum.

Following this, define the final height of the flooring with respect to the height of the ground:

- if the screed can be drilled and the flooring height is up to 8/10 cm: follow the instructions of **CASE A**;
- if the screed **CANNOT** be drilled and the flooring height is up to 10/12 cm: follow the instructions of **CASE B**;
- if the screed can or **CANNOT** be drilled and the flooring is over 12 cm: follow the instructions of **CASES C**.

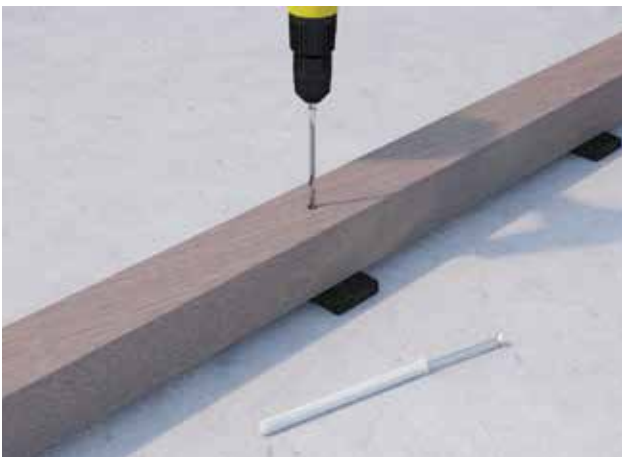
CASE A: single frame upon spacers

It applies if the final height of the foot traffic surface is not higher than 8/10 cm, only if the screed can be drilled, in order to properly anchor the whole substructure to the ground.



Single frame upon spacers

- Align the substructure joists with their relative spacers at the correct distance (see pg. 8).
- Recommended distance between the joists:
 - 45 cm (for installation with visible screws).
 - 30 cm (for installation with clips).

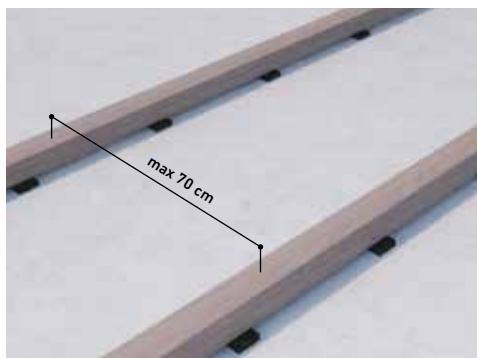


Anchoring to the ground

- Pre-drill the substructure joists.
- Anchor the substructure joist to the ground by using plugs (at least one every 75 cm), if possible where the spacers are positioned.

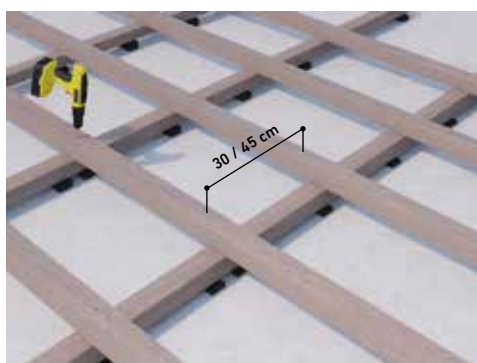
CASE B: two-fold framing upon spacers

It applies if the final height of the foot traffic surface is not higher than 10/12 cm, if the screed is waterproof and, therefore, it CANNOT be drilled.



Realization of the first frame

- Align the substructure joists with their relative spacers at the correct distance (see pg. 8) with a distance between the joists of maximum 70 cm.
- Verify the flatness of the structure by using straightedges and flattens.
- Anchor the rubber spacers to the ground by using some glue (see pg. 8).

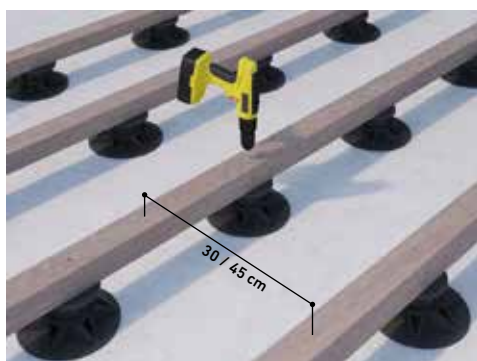


Realization of the second frame

- Screw the joists of the second frame to those of the first one perpendicularly.
- Recommended distance between the joists:
 - 45 cm (for installation with visible screws).
 - 30 cm (for installation with clips).
- Pre-drill the substructure joists.

CASE C1: single frame upon lifting supports

It is recommended for the realization of foot traffic surfaces with a height over 10/12 cm and for installation with visible screws.

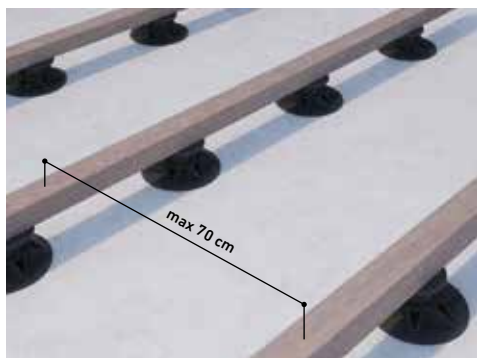


Single frame upon lifting supports

- Align the supports in rows at the correct distance (max. 50cm) and position over them the substructure joists (see pg. 8).
- Recommended distance between the joists:
 - 45 cm (for installation with visible screws).
 - 30 cm (for installation with clips).
- Anchor properly the lifting supports to the ground and the substructure joists to the lifting supports (see pg. 8).
- Pre-drill the substructure joists.

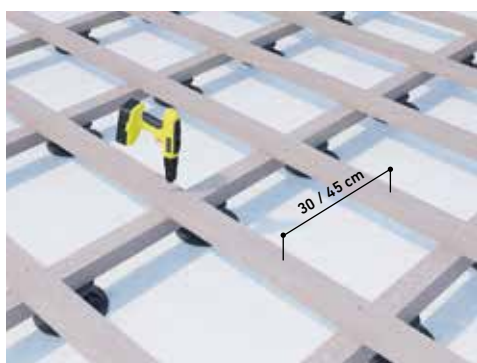
CASE C2: two-fold framing upon lifting supports

It increases the flooring stability when it is necessary to lift the flooring (final height of the foot traffic surface over 10/12 cm). It is necessary to realize a two-fold framing (advisable for installation with clips) upon the lifting supports.



Realization of the first frame

- Align the lifting supports 50 cm apart (see pg. 8), in rows no more than 70 cm apart, and position over them the substructure joists.
- Verify the flatness of the structure by using straightedges and flattens.
- Anchor the lifting supports to the ground by using some glue (see pg. 8).
- Anchor the substructure joists to the lifting supports by using screws, until the first frame is completed.

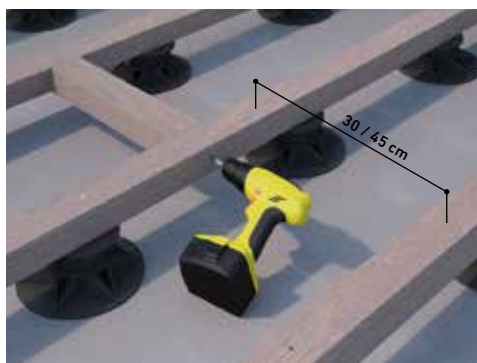


Realization of the second frame

- Screw the joists of the second frame to those of the first one perpendicularly.
- Recommended distance between the joists:
 - 45 cm (for installation with visible screws).
 - 30 cm (for installation with clips).
- Pre-drill the substructure joists.

CASE C3: bracing upon lifting supports

It is possible to realize over lifting supports a bracing structure as an alternative to the two-fold framing presented in the previous paragraph.



Realization of the bracing

- Align the lifting supports at the correct distance (max. 50 cm) and position over them the substructure joists (see pg. 8).
- Recommended distance between the joists:
 - 45 cm (for installation with visible screws).
 - 30 cm (for installation with clips).
- Anchor the lifting supports to the ground and the substructure joists to the lifting supports (see pg. 8).
- Cut some cross beams of the same dimension of the distance between the substructure joists.
- Anchor the cross beams as illustrated in the picture by pre-drilling the substructure joists and the cross beams.



Finishing of the bracing

- Continue like that until the substructure is completed, misaligning the cross beams in order to simplify their fixing.

SUBSTRUCTURE INSTALLATION UPON UNSTABLE GROUND

Installation upon soil: preliminary evaluations

In case of installation upon soil, verify the final height of the flooring with respect to the height of the ground:

- if the height of the finished foot traffic surface is not over 15/17 cm: follow the instructions of **CASE A**;
- if the height of the finished foot traffic surface is over 15/17 cm: follow the instructions of **CASE B**.

CASE A: two-fold framing upon structural elements

For the realization of foot traffic surfaces which are not higher than 15/17cm.



Preparation of the ground

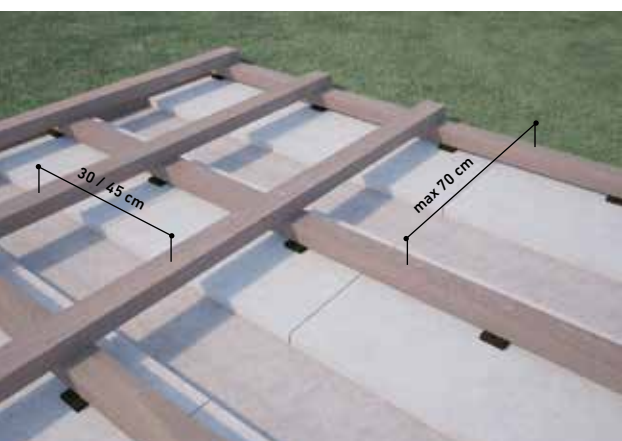
- Eliminate ground until reaching the correct height with respect to the desired height of the flooring.
- Position over the soil nonwoven fabric to prevent the grass for re-growing.
- Position the structural supports (concrete tiles or slabs) as many as necessary for the desired structural weight .

Please note that: the structural calculations are on charge of the customer, to be defined with the architect/designer.



Realization of the first frame

- Align the substructure joist with a distance no higher than 70 cm.
- Verify the flatness of the structure by using straightedges and flat-tens.
- Calculate the distance between the joists and position the rubber spacing by using glue at a recommended distance of 50 cm (see pg. 8).
- Pre-drill the substructure joists every 75 cm and anchor them to the structural supports by using plugs.



Finishing of the two-fold framing

- Finish the first frame.
- Screw the joists of the second frame to those of the first one perpendicularly.
- Recommended distance between the joists:
 - 45 cm (for installation with visible screws).
 - 30 cm (for installation with clips).
- Pre-drill the substructure joists.

CASE B: two-fold framing upon beams

For the realization of foot traffic surfaces higher than 15/17 cm. It is not advisable for installation with clips.

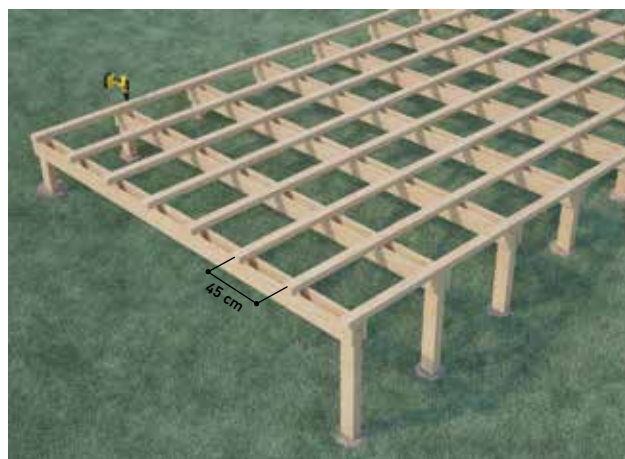
Anchoring of the beams

- Position the wooden beams on the ground with a distance between the beams based on the structural load of the project and at a height based on the desired foot traffic height.
- Anchor to them a lateral double beam with twin effect.



Realization of the substructure

- Finish the support structure.
- Anchor to it, by using screws, the substructure joists at a recommended distance of 45 cm (for installation with visible screws).
- Pre-drill the substructure joists.



Installation upon sand or gravel

The installation upon sand or gravel is like the one on soil, except for some precautions:

- wet abundantly the sand;
- press it until the ground is perfectly compact and flat;
- position the structural supports;
- it is compulsory to consider also a framing profile in order to avoid that the wind, by removing the sand, may cause the falling of the structure.

INSTALLATION OF THE DECK BOARDS

Installation with visible screws

Advantages of the flooring with installation with visible screws:

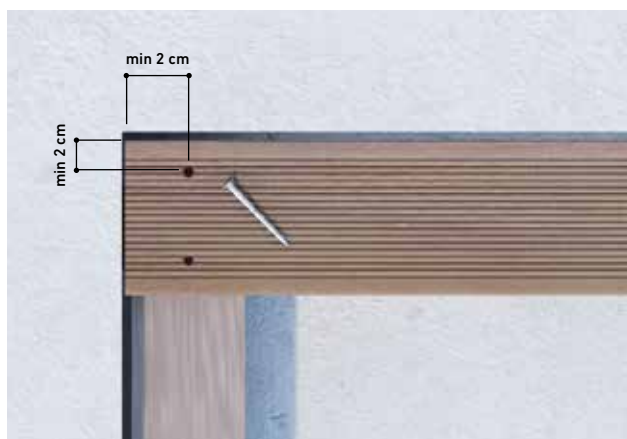
- optimal fixing of the flooring to the substructure, limiting the possible movements of the deck boards;
- easier inspection of the underneath area;
- if necessary, easy substitution of the deck boards.

To avoid to see the screws on the surface, it is possible to hide them by using caps realized in the same wood of the deck boards (see Ravaoli decking pricelist).



Installation of the first row

- Finish the substructure (see previous sections).
- Select a number of perfectly straight deck boards, in a sufficient number to complete the installation of the first row.
- Respect the minimal distances from the fixed structural elements (see pg. 4)
- Pre-drill the deck boards.



Pre-drilling

- During the pre-drilling, respect the 2 cm minimum distance from the lateral side and the butt joint of the deck board.



Deck boards butt joints with visible screws

- It is fundamental to make sure that the butt joints of the deck boards end on a substructure joist.
- In case of butt joints on the same substructure, do not leave any gap and double the number of screws.

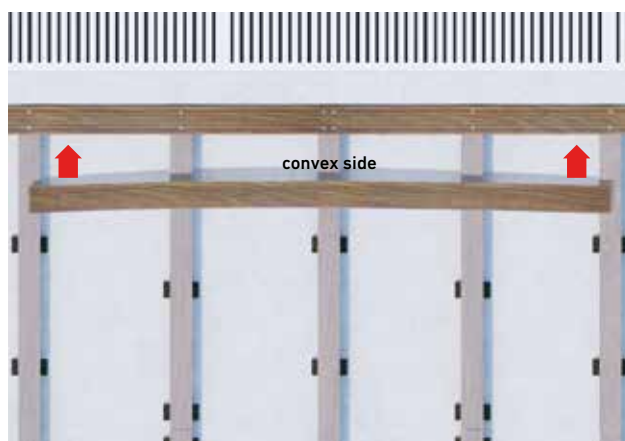
Fixing of the deck boards of the first row

- Screw the deck boards to the substructure joists by using the already pre-drilled holes.



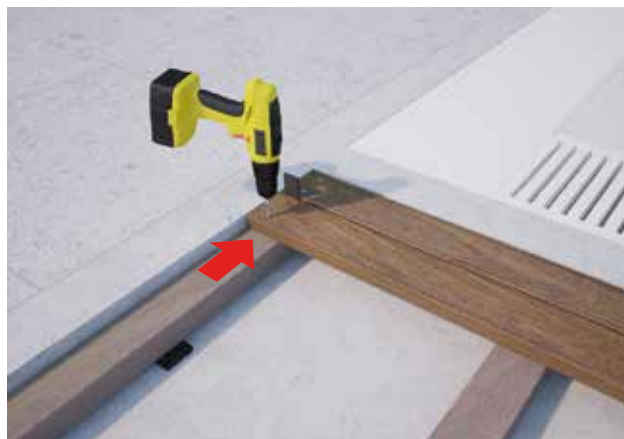
Installation of the remaining rows

- It is possible that some deck boards may be curved due to the nature of solid wood, with a tolerance until what the Italian norm UNI 11538-1 establishes.
- In case of a curved deck board, install the deck boards of the first row with the convex curvature against the row previously positioned.
- It is advisable to install the deck boards in a staggered fashion.



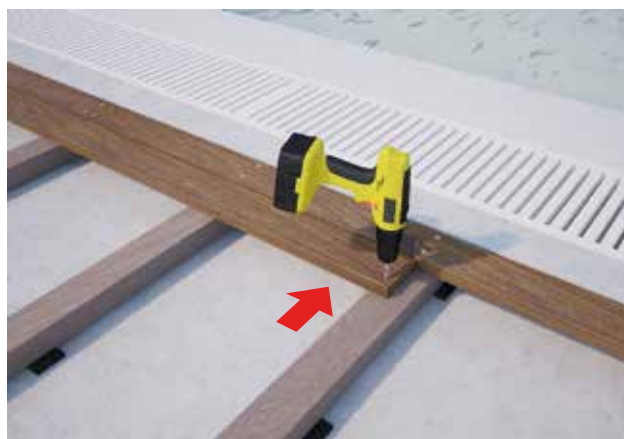
Fixing of the first butt joint

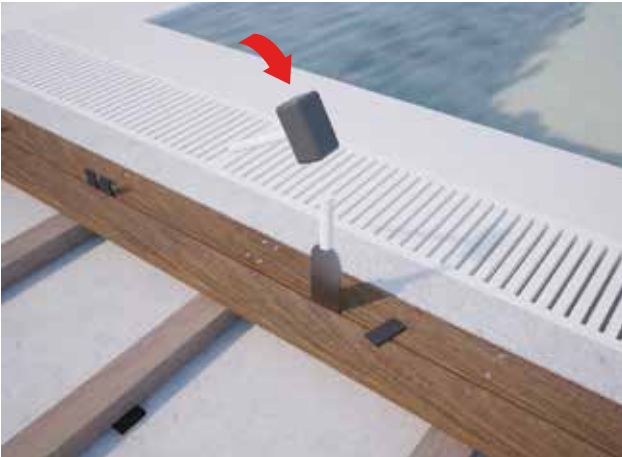
- First, fix the deck boards, only and exclusively at the butt joints, by using a spacer with the same thickness of the desired gap (advisable 5 mm).
- Pre-drill the deck boards.



Fixing of the second butt joint

- If the deck board is curved, it will be necessary to push the butt joint which has not been fixed yet towards the spacer placed against the previous row.
- Pre-drill the deck boards.





Repositioning of the deck board

- Reposition with a lever the curved deck boards in order to even out the gap between the deck boards. Keep the curved deck board in position by using a spacer.
- Repeat both processes (fixing of the butt joints and reposition of the deck boards) until the entire flooring has been completed.



Fixing of the deck boards

- Once finished, use a chalk liner to mark the lines necessary for fixing straight the screws in correspondence with the substructure joists.
- Screw the deck boards to the substructure joists by using the line previously marked.
- Remove the spacers.



Framing finishing profile

- It is possible to complete the flooring with its appropriate nosing profile.
- Fix the nosing profile to the structure with screws, both on the foot traffic surface and on the side, making sure to screw them in correspondence to the substructure joists.

Installation with clips

The installation with clips guarantees excellent aesthetic results. In order to avoid deformations and bending of the deck boards and to guarantee an adequate result, Ravaoli recommends to use clips only with woods with a well-established stability: Teak, Ipè, FSC® Thermo-Treated Ash, Thermo Bamboo and Kebony.

Installation of the first row

- Finish the substructure (see previous sections).
- Select a number of perfectly straight deck boards, in a sufficient number to complete the installation of the first row.
- Respect the minimal distances from the fixed structural elements (see pg. 4).
- Pre-drill the deck boards only on the external side.
- Fix with screws the deck boards to the substructure by using the already pre-drilled holes.



Deck boards butt joints with clips

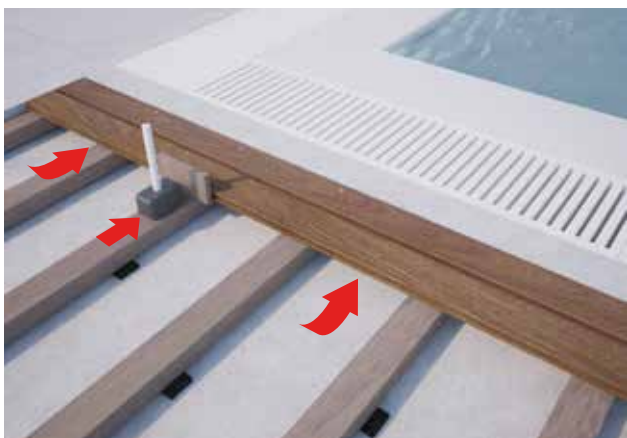
- It is fundamental to make sure that the butt joints of the deck boards end on a substructure joist.
- In case of butt joints on the same substructure, the same clip has to block both deck boards.
- It is possible to hide the screws of the first row by using caps in the same wood of the deck boards (see Ravaoli decking pricelist).



Installation of the remaining deck boards

- Where the deck board is positioned over the substructure joist, insert the clip all the way into the lateral milling on the side which remains free, eventually by using a hammer.
- Fix each clips to the substructure joist with two screws.





Installation of the remaining rows

- Install the remaining deck boards so that the chosen lateral milling (see Ravaoli decking pricelist) enters completely into the clip until touching it.

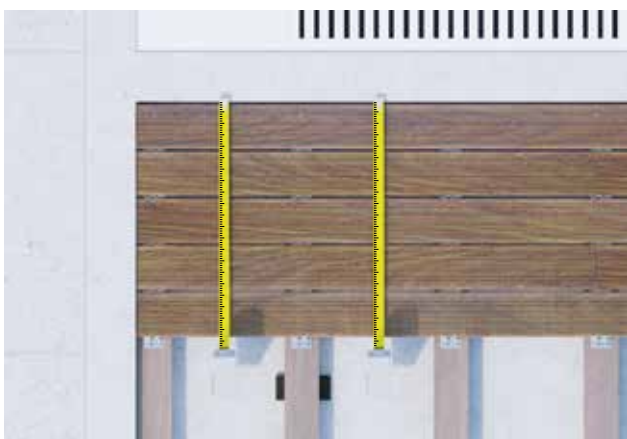
Please note that: it is important to remember to always position, if present, the convex curvature of the deck boards against the row previously installed (see pg. 15 for the installation with visible screws).

- If necessary, use a hammer and a piece of off-cuts in order not to ruin the deck board.



Installation of the remaining deck boards

- Where the deck board is positioned over the substructure joist, insert the clip all the way into the lateral milling on the side which remains free, eventually by using a hammer.
- Fix each clips to the substructure joist with two screws.



Checking up

- Every 4 or 5 rows of deck boards verify that the distance between the first and the last deck board is perpendicularly constant.

Please note that: if the distance is not regular, in order to avoid deviations from perpendicularity and differences in the gap, it is necessary to recheck if the deck boards are parallel before continuing the installation.



Framing finishing profile

- Continue as above described until completing the flooring with its appropriate nosing profile.
- Fix the nosing profile to the structure with screws, both on the foot traffic surface and on the finishing side, making sure to screw them in correspondence with the substructure joists.

ADDITIONAL FINISHING

Installation of the gasket for “Navy effect”

The black interlocking gasket for “Navy effect” is ideal for floorings with visible screws or clips. It has to be used only with Teak or Thermo Bamboo.

Measurement of the gasket

- Measure the gasket by leaning it from one end to the other of the gap.
- Cut it and leave an extra quantity.



Fixing of the butt joints

- Fix one end of the gasket with some glue at the beginning and inside the gap which has to be covered.



Insertion of the gasket into the gap

- Block the gasket already inserted by pressing it, in order to prevent it from exiting from the gap.
- Stretch smoothly the gasket and, always by pressing on it, insert it into the gap.



Finishing

- After inserting all the gasket into the gap, the extra quantity will be left outside.
- DO NOT CUT it immediately because the gasket may shrink for a few cm. (The waiting may last a few days, based on the length of the gap).
- When cutting the extra part, use some glue.





fastclick system installation

FASTCLICK SYSTEM INSTALLATION

FastClick System is the installation system made of an aluminium substructure and special pre-assembled nylon clips which allows to install the deck boards only by pressing with a foot. The deck boards can be in wood or in the WPC composite (see the Ravaioli decking pricelist or its datasheets).

The WPC composite may suffer thermal expansion till 1 mm/m. It is advisable to install the WPC deck boards when the temperatures are not too high. Before the installation it is also advisable to accurately measure the lengths of each deck board. They will have to be constantly rechecked during the installation process.

Preliminary evaluations

Verify the final height of the flooring with respect to the height of the ground:

- if the finished foot traffic surface is not higher than 6/7 cm: follow the instructions of **CASE A**;
- if the finished foot traffic surface is higher than 6/7 cm: follow the instructions of **CASE B**.

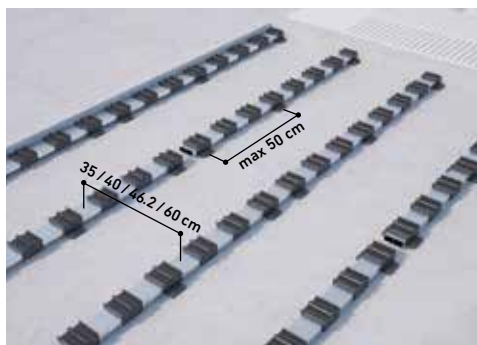
CASE A: FastClick system installation upon spacers

It applies if the final height of the foot traffic surface is not higher than 6/7 cm.



Rubber spacing

- Align the substructure joists on the ground with the appropriate Ravaioli rubber spacers (see Ravaioli decking pricelist) and fix the spacers to the joists with some glue (not to the ground).
- Recommended distance between the rubber spacers: max 50 cm.

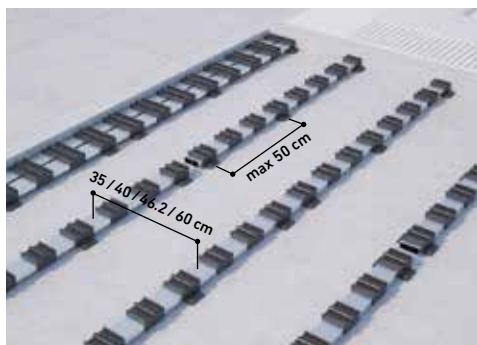


Realization of the substructure

- Align the aluminum bars, already inclusive of the clips, at a defined distance (see the table here below), without fixing them to the ground. Also, make sure to interrupt them once in a while.
- The recommended distance between the substructure bars depends on the kind of deck board chosen for the flooring:

Deck board	Distance between joists
WPC	35 cm
Asian and Burmese Teak	40 cm
Ipè 25x90x1,200/1,800 mm	60 cm
Ipè 25x140x1,200/1,800 mm	60 cm
Thermo Bamboo	46.2 cm

- If the bar starts or ends against a fixed architectural element, it is necessary to cut the external half of the first clip.

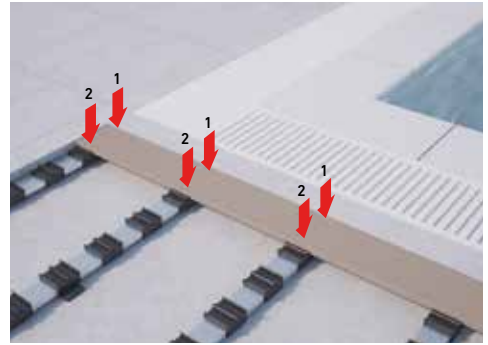


Doubling of the substructure joist

- Where it is not possible to anchor the substructure joist to the ground, it is necessary to double the substructure joists on the exterior sides.

Installation of the first deck board

- Position the deck board making sure the milling and the interlocking clips coincide
- Apply a double pressure “tip (1) - toe (2)” to make the deck board and the clip interlock perfectly.
- Repeat the same process at each crossing between the substructure joists and the deck boards.



Installation of the remaining deck boards

- Interlock other deck boards separated from the others in order to square the flooring. This allows for a perfect alignment of the substructure joists, which will be ready for the installation.

Please note that: the position of the deck boards has to be calculated accurately, paying attention to the alternating of the butt joints between the joists.

- For the installation of wide floorings, proceed for delimited areas, paying attention to progressively link one to the other.



Regulation of the rubber spacers

- Once the substructure joist are perfectly perpendicular, verify the flatness of the structure by using straightedges and flattens.
- Add, if necessary, other spacers.
- Glue the added spacers to the substructure joist.



Fixing of the substructure to the ground

- Anchor the bars to the ground with plugs.
- Please note that: in case of tar sheathing, DO NOT DRILL but glue the joists to the ground.**



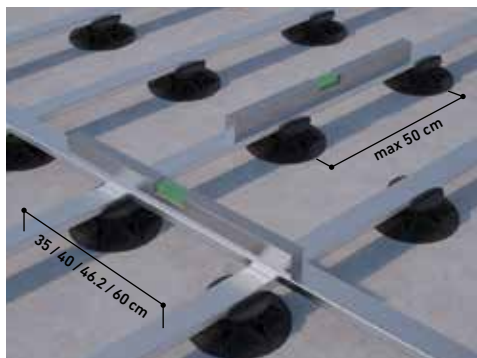
Finishing of the flooring

- Complete the flooring by interlocking all deck boards.



CASE B: FastClick System installation upon lifting supports (jack-supports)

It applies if the final height of the foot traffic surface is higher than 6/7 cm.



Installation of the lifting supports

- Position the lifting supports max. 50 cm apart on row, with a distance between the rows equal to those at pg. 22.
- Verify that the lifting supports are all perfectly aligned and flat both vertically and horizontally by using straightedges and flattens. If necessary, regulate the height of the headpieces by using its nuts.



Fixing of the lifting supports to the ground

- Lift the support on a side and put some glue to anchor it to the ground.
- Wait for the glue to dry to avoid the support to move.
- For the realization of wide floorings, proceed for delimited areas.



Fixing of the substructure joist to the lifting support

- Position the substructure joist in the middle of the flat headpieces of the lifting supports.
- Lift the substructure joist on a side and put some glue below it to anchor it to the support.
- For the realization of wide floorings, proceed for delimited areas.
- If the substructure joist begins or stops against a fixed architectural element, it is necessary to cut the external half of the clip.



Installation of the first deck board

- Position the deck board making the milling and the interlocking clips coincide.
- Apply a double pressure "tip (1) - toe (2)" to make the deck board and the clip interlock perfectly.
- In case of height for which it is not advisable to press with a foot, use a rubber hammer.
- Repeat the same process at each crossing between the substructure joists and the deck board.

Installation of the remaining deck boards

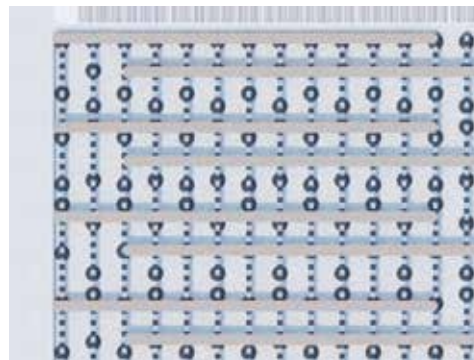
- Do not wait for the glue fixing the substructure joist to the lifting support to dry completely: this allows to have a certain elasticity which is necessary for the squaring of the entire substructure.
- Interlock some deck boards separated from the others in order to square the flooring. This allows for a perfect alignment of the substructure joists before the glue dries completely.

Please note that: the position of the deck boards has to be calculated accurately, paying attention to the alternating of the butt joints between the joists.



Installation of the remaining deck boards

- For the installation of wide floorings, proceed for delimited areas, paying attention to progressively link one area to the other.



Regulation of the lifting supports

- If necessary, regulate the height of the headpieces by using its nut.



Finishing of the flooring

- Complete the flooring by interlocking all deck boards.

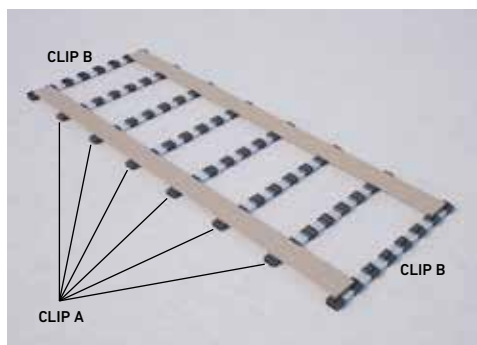


ALTERNATIVE SOLUTIONS AND PRACTICAL EXPEDIENTS

The FastClick system, thanks to its clips (clip A and clip B), allows to change the direction of installation by 90° and to offer solutions which may solve in an easy and fast way situations which would be, otherwise, complicated.

Floorings divided into platforms with the FastClick system

The installation in platforms consists in the installation of portions of flooring previously pre-assembled. This allows for an even faster installation and it is advisable for wide surfaces or for temporary floorings.



Realization of the substructure

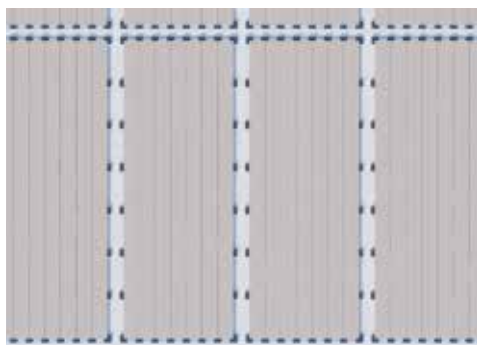
- Align at the correct distance the substructure joists: those inside with clips A and those outside with clips B (see Ravaioli decking pricelist).
- Fix the substructure by interlocking the two exterior deck boards.



Finishing of the platforms

- Finish assembling the platforms by interlocking the remaining deck boards.

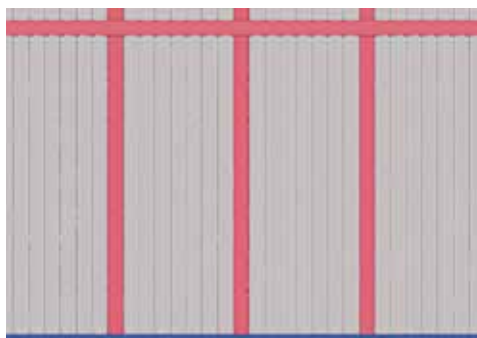
Please note that: for an easier moving of the platforms, it is advisable to create platforms with no more than 7 deck boards and with substructure joists cut in half.



Realization of the flooring

- After having prepared and checked the flatness of the ground (see general notes), position the platforms on the surface they have to cover so that the distance in between allows to position the connecting deck board.

Please note that: in case of a temporary flooring, it is advisable to reduce the number of the exterior clips on the joist which links the different platforms. This will allow for an easier disassembling of the flooring.



Finishing of the flooring

- The type B clips situated externally on the short side of each platform will allow to anchor one platform to the other also longitudinally.
- Insert the connecting deck boards (highlighted in red) both horizontally and vertically.
- Finish the flooring with the special interlocking FastClick nosing (highlighted in blue, see Ravaioli decking pricelist).

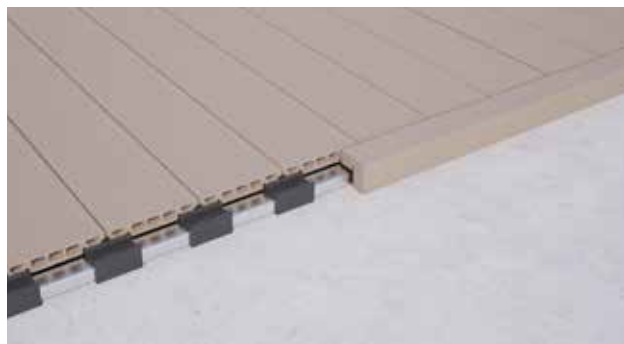
Installation of the finishing framing profile

For the FastClick system there is also available a finishing framing profile (nosing) which is easy and fast to install.



Parallel installation to the direction of the deck boards

- During the installation of the substructure, please consider also the need to install the framing profile and leave all the exterior clips available for this purpose.
- Press on the profile in order to make it perfectly fit into the clip.



Perpendicular installation to the direction of the deck boards

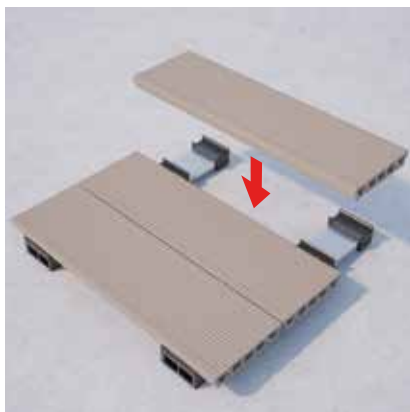
- During the installation of the substructure, please consider also the need to install the framing profile and insert in the right direction the first joist with type B clip.
- Press on the profile in order to make it perfectly fit into the clip.

Realization of opening trapdoors



Substructure disposition

- Interrupt the substructure where the trapdoor should be positioned.
- Insert two pieces of substructure joists where the trapdoor will be positioned in order to reinforce it.
- Realize a support surface for the trapdoor above the reinforcing joists by cutting part of the single clips.



Realization of the platform

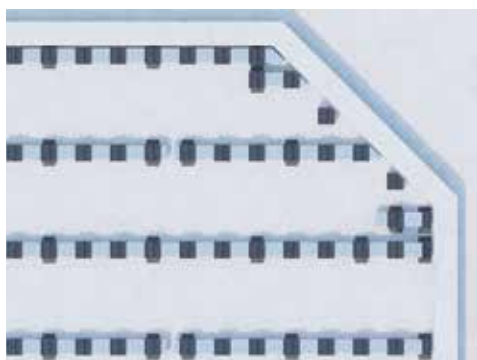
- Continue the installation of the flooring and make sure to cut the deck boards to size where the trapdoor will be positioned.
- Do not cover the part of the reinforcing joists where the clips have been cut.
- Cut as many pieces of deck board and substructure joist as needed for the realization of a trapdoor as big as the surface that has to be covered.



Finishing of the trapdoor

- Position the platform on the opening: the edges of the platform will have to fit over the support surfaces created by the reinforcing joists.

Realization of oblique cuts



Oblique cut

- Cut diagonally the final parts of the substructure joists, following the design of the desired angle.
- Add portions of the substructure joists, in between the main joists, on the areas where the deck boards cut diagonally would have no support at the ends.



Finishing of the flooring

- Cut the deck boards to size and complete the surface.
- Please note that: if a deck board ends on a portion of substructure joist with no clip in it, it is advisable to put some glue to anchor it.**

Realization of rounded cuts



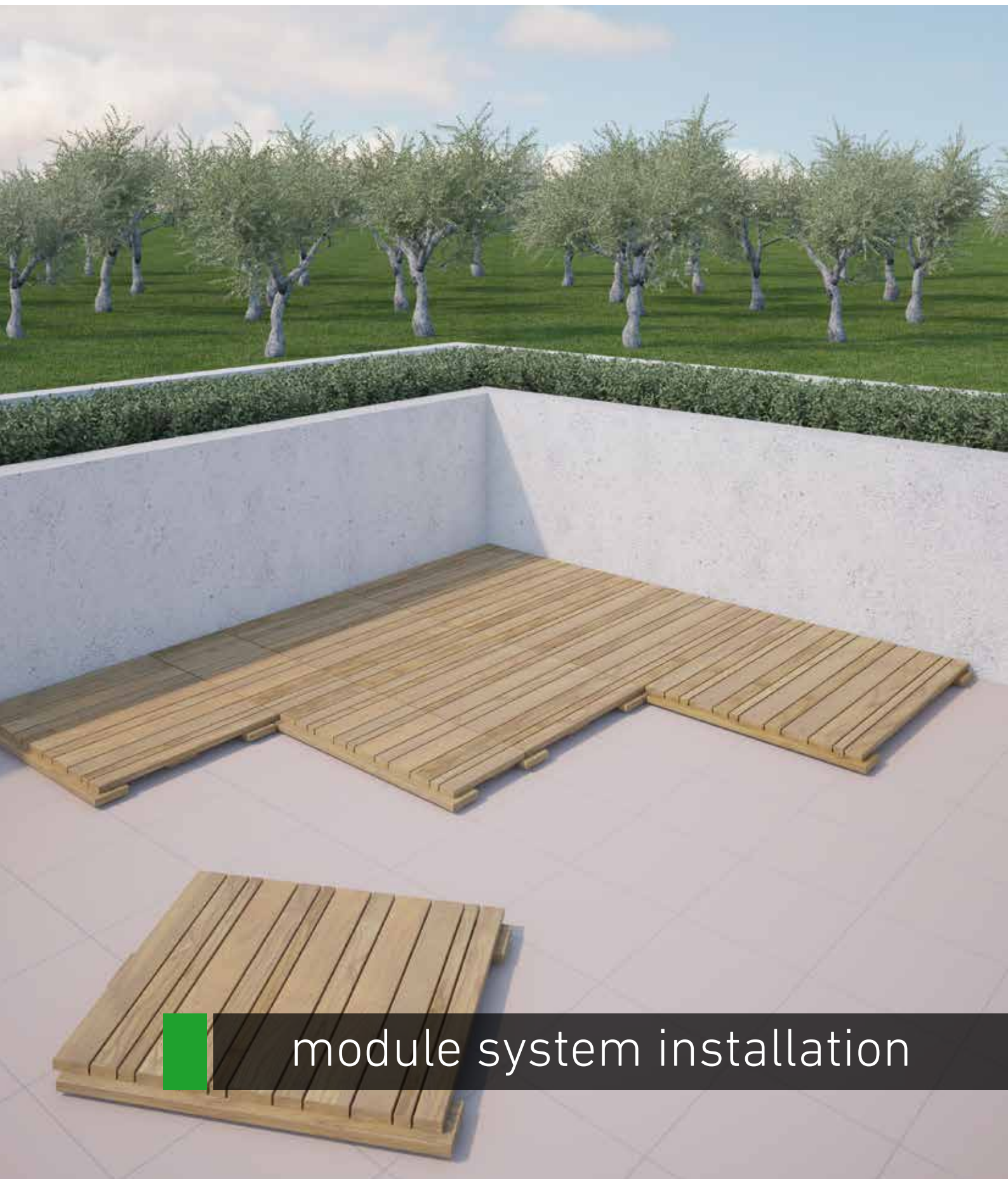
Rounded cut

- Realize the installation as usual, making sure that the deck boards go beyond the line along which the rounded cut should be made.
 - Make the desired cut by using an adequate tool.
 - Make sure that the substructure inside the cut has at least one point of support and of interlocking with each deck board.
- Please note that: in case of a flooring limited by walls and/or fixed obstacles, the cut has to be previously calculated and designed.**



Finishing profile

- After the cut, it is possible to install the special finishing profile (see Ravaoli decking pricelist).
- Heat the profile with an industrial hair drier and mould it according to the curve it has to follow.
- Gradually fix it with screws while continuing, remembering that, after cooling, the profile will maintain the given shape.



module system installation

MODULE SYSTEM INSTALLATION

Preliminary evaluations

Verify the final height of the flooring with respect to the height of the ground:

- if the finished foot traffic surface is not higher than 5/6 cm: follow the instructions of **CASE A**;
- if the finished foot traffic surface is higher than 5/6 cm: follow the instructions of **CASE B**.

CASE A: installation directly on the ground



Preparation of the platforms

- Cut the protuberant parts of the substructure joists on the sides which end against the fixed structural elements.

Please note that: it is important to always leave at least 10 mm from the fixed building elements (walls, slabs, structures, etc.)

- Position the first Module at the starting point.



Spacing

- If there is the necessity of spacing, glue the rubber spacers directly to the ground.

Please note that: while positioning the spacer, it is important for the rubber foot of also the other Module to be positioned directly on the spacer.



Installation

- Continue the installation of the second Module by pushing it and making it leaning against the interlocking system of the first platform (if it is necessary, use a hammer).

Gluing of the Modules one to another

- Put some glue on the substructure joist of the first Module before placing the second one.
- Continue until completing the row.



Installation

- Continue by positioning the second row, always paying attention to the interlocking system of the Modules.
- Always anchor one Module to the other with some glue.
- Continue until finishing the flooring.



Framing finishing profile

- Fix the framing profile to the substructure joists sticking out of the Modules by using screws.



Anchoring of the finishing profile to the ground

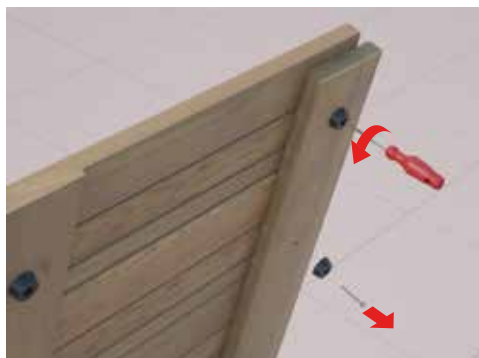
- It is advisable to anchor the framing profile to the ground by using plugs.

Please note that: in case of tar sheathing, DO NOT DRILL but glue to the ground.



CASE B: installation upon lifting supports (jack-supports)

Follow the previous instructions about the case A (pgs. 30 and 31) except for the following differences.



Removal of the rubber feet

- Before installing, remove with a screwdriver the rubber feet positioned on the back of the platforms.



Gluing of the lifting supports to the ground

- After positioning the lifting supports (calculate at least 6 pcs per smq), lift them on a side and put as much glue as necessary to anchor them to the ground.



Gluing of the Modules one to another

- Position the first Module to the lifting supports, without gluing it.
- Position a second Module on the substructure joist of the first Module and fix them together with some glue.
- If necessary, regulate the height of the lifting supports by using its nut.



Finishing of the flooring

- Repeat this processing until the flooring is completed.



deck tile system installation

DECK TILE SYSTEM INSTALLATION

Preliminary evaluations

Verify the final height of the flooring with respect to the height of the ground:

- if the finished foot traffic surface is not higher than 4/5 cm: follow the instructions of **CASE A**;
- if the finished foot traffic surface is higher than 6/7 cm: follow the instructions of **CASE B**.

CASE A: installation upon 14mm support with non-adjustable height



Preparation of the supports

- Cut the support which will be positioned against the wall, in correspondence with the corners and the framing sides, along the pre-existing grooving. Create half circles or quarter circles.



Positioning of the supports

- Position the supports by using a deck tile.
Please note that: it is important to always respect the 10mm distance from the fixed building elements (walls, slabs, structures, etc.).
- The wings are necessary to give the correct distance, creating the appropriate gap in between the deck tiles.
- Lift the supports on a side and glue them to the ground.



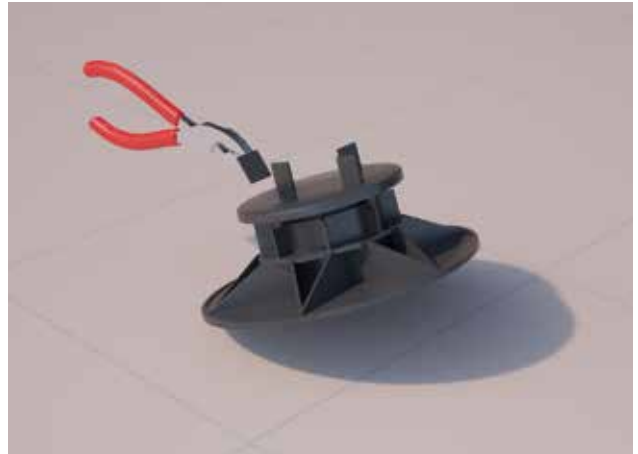
Installation of the deck tiles

- Position the first deck tile by starting from a corner.
- Proceed with the installation of the other deck tiles until completing the flooring.
- According to the correct installation of the wooden deck tiles, they should be alternatively placed in different directions (chessboard design).

CASE B: installation upon lifting supports (jack-supports)

Preparation of the lifting supports

- Remove the 4 wings of the headpiece from the lifting supports to be positioned on the corners of the flooring (in alternative, use lifting supports with flat headpiece).
- Remove 2 parallel wings of the headpiece from the lifting supports to be positioned on the perimeter. Position the supports so that the remaining wings are perpendicular to the exterior perimeter.



Positioning of the lifting supports

- Position the supports by using a deck tile.
Please note that: it is important to always respect the 10mm distance from the fixed building elements (walls, slabs, structures, etc.).
- The wings are necessary to give the correct distance, creating the appropriate gap in between the deck tiles.
- Lift the supports on a side and glue them to the ground.



Installation of the deck tiles

- Position the first deck tile starting from a corner.
- Proceed with the installation of the other deck tiles until completing the flooring.
- According to the correct installation of the wooden deck tiles, they should be alternatively placed in different directions (chessboard design).



Maintenance products

When exposed to sunlight and adverse weather conditions, the wood undergoes a natural tone and colour alteration and, over time, it tends to turn grey. Accurate cleaning and regular maintenance, at least once or twice a year, can minimize this process, allowing it to keep its natural color longer.

From the consolidated experience of Ravaioli it has been created **mydeck+**, a new line of products for the maintenance and cleaning of decking, recommended for the protection of wood against the attack of insects and the graying process.



mydeck+ SOAP

mydeck+ SOAP - Detergent to protect exterior wood applications.

It cleans efficiently dirt, residual chlorine, saltiness and spots. It respects wood and doesn't leave any stain. Its constant use protract the times of maintenance of the treatment with **mydeck+ WOOD OIL**.



mydeck+ BALSAM

mydeck+ BALSAM - Revitalizing balsam for exterior wood applications.

It enhances the aspect and the brilliance of the decking exposed to unfavorable atmospheric conditions. It is ideal to regenerate the beauty and the natural properties of the wood. It is also ideal for a summary cleaning, thank to its cleaning characteristics.



mydeck+ GREY OFF

mydeck+ GREY OFF - Product for the removal of grey oxidation.

Regenerating solution for wood that has become grey, ideal to restore the original color of the wooden objects that have been exposed to bad weather, all without damaging expansion joints and rubbers. Biodegradable.



mydeck+ WOOD OIL

mydeck+ WOOD OIL - Pigmented impregnating oil to revitalize and protect. Water-based.

Particularly resistant to the sun action, thanks to its staining agents it gives to the wood a pleasant, warm color, protecting it against the attack of both moulds and infesting organisms.



mydeck+ WOOD OIL light

mydeck+ WOOD OIL light - Neutral impregnating oil to revitalize and protect. Water-based.

Due to the absence of pigmentation, it preserves the original color of the wood, protecting it against the attack of both moulds and infesting organisms.



mydeck+ CROMO BASIC

mydeck+ CROMO BASIC - Revitalizing maintenance product, concentrated.

To use diluted to 30%. It is available in different colors (please see the Cromo Basic Ravaioli color chart).



mydeck+ WPC

mydeck+ WPC - Protective and regenerating maintenance product for WPC deck boards.

Water-based. Anti-UV and anti-stains protective product. It can be diluted until 4% and it is available with both transparent or pigmented finishing (please see the FastClick Ravaioli color chart).



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