

4DECK

DESKI TARASOWE | ELEWACYJNE

INSTALLATION INSTRUCTIONS

Composite Decking System

THANK YOU FOR PURCHASING 4DECK PRODUCTS.
BEFORE BEGINNING WORK, PLEASE READ THE ENTIRE
INSTALLATION INSTRUCTIONS.

SAFETY GUIDELINES



It is recommended that installation be carried out by specialized and trained construction companies. For more information, please contact your nearest sales point. Global-Biznes Sp. z o.o. is not liable for any damages or product defects resulting from improper installation. Installation that does not comply with these instructions voids the user's warranty rights.



Before starting the installation, all boards and profiles should be acclimated for 24 hours at the installation site. Do not install the boards during inclement weather or when the temperature is below 5 degrees Celsius.



The components of the 4DECK composite decking system can be cut and drilled in the same manner as solid wood, using standard woodworking tools. For cutting the components, we recommend using carbide-tipped blades or saws with fine teeth.



The components of the 4DECK composite decking system should not be used as structural architectural elements. All profiles in the 4DECK composite decking system will expand in volume when exposed to high temperatures, so it is important to allow for proper spacing. The recommended spacing dimensions will be provided later in the instructions.

COMPONENTS OF THE 4DECK DECKING SYSTEM

The decking system consists of the following components:

DECKING BOARD

25 mm x 140 mm



JOIST

30 mm x 40 mm



STAINLESS STEEL CLIP



STARTING CLIP



PLASTIC CLIP



TERRACE SKIRTING BOARD

72 mm x 10 mm



ANGLE STRIP

48 mm x 48 mm



END CAP



The system can be assembled in the following configurations:

1. Board, joist, starting clip, stainless steel clip, finishing elements (end cap, angle strip, base trim)
2. Board, joist, starting clip, plastic clip, finishing elements (end cap, angle strip, base trim)

LIST OF TOOLS REQUIRED FOR INSTALLATION

Wood saw, Level, Screwdriver, Pencil, Wood drill bit set, Rubber mallet, Concrete drill bit set, Construction adhesive (optional), Tape measure, Concrete anchors, Wood screws, Elastomeric adhesive

SUBSTRATE PREPARATION

The 4DECK decking boards should be installed on a pre-prepared substrate. The substrate construction must comply with applicable building regulations. In many cases, to ensure user safety, a substrate preparation plan is necessary. The information provided below is for informational purposes only—the execution of the substrate is the sole responsibility of the installer.

The decking can be installed on:

- Concrete slab
- Steel, wood, or aluminum structure
- Adjustable supports made of plastic

CONCRETE SUBSTRATE

The substrate must be stable and flat, with a slope of 0.5%, which is 10 mm over 2 meters, directed away from the building walls. Installing the boards this way ensures optimal water drainage from the deck, preventing water from pooling on or beneath the boards.

It is important to remember that:

- Joists must not be embedded in the concrete.
- The distance between joists must be kept consistent.
- Boards must not be fastened or glued directly to the substrate.
- Ventilation gaps should be left under and around the boards.
- The substrate must be constructed according to generally accepted building regulations and best practices.

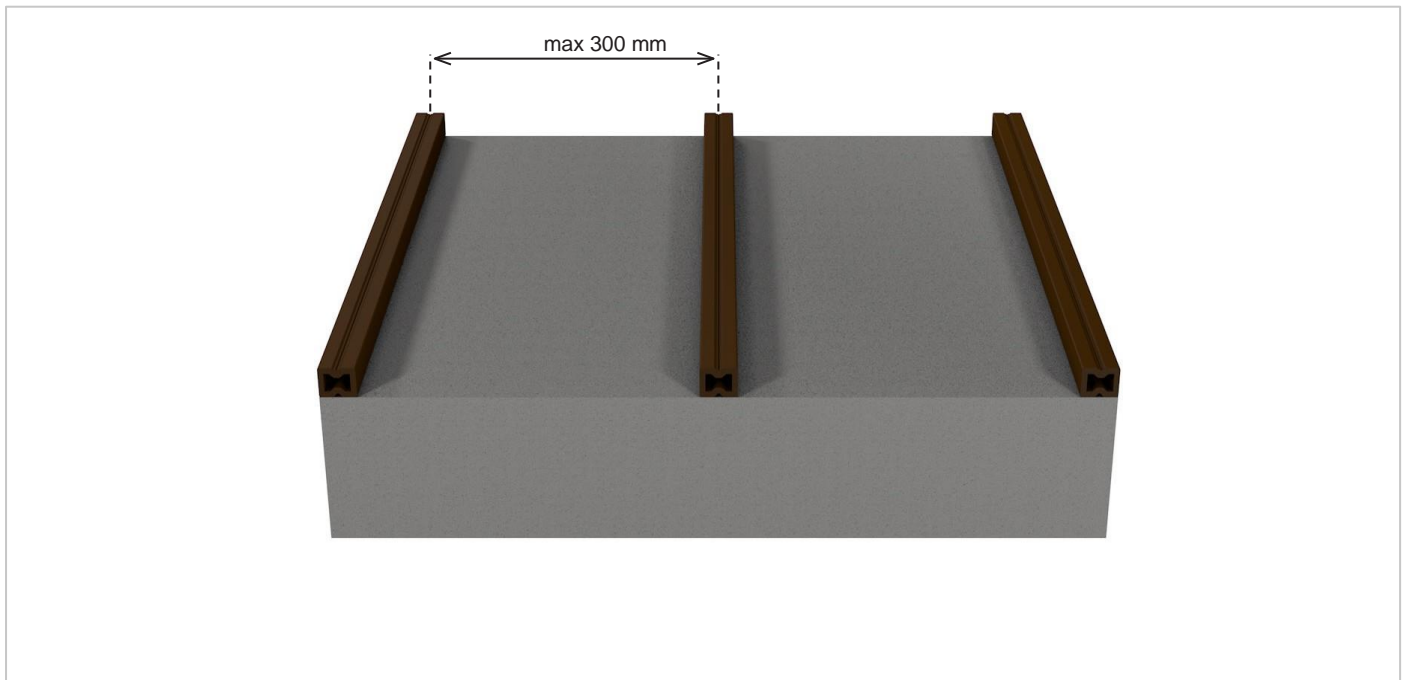


Fig. 1: Deck on a Concrete Substrate

STEEL/WOOD STRUCTURE USING WEDGE SUPPORTS

The composite joist is not a structural joist and cannot be supported at point locations; it should be replaced with a wooden or aluminum joist. Joists can also be installed on a steel, wood, or aluminum structure, or on plastic supports. Each joist must have at least three support points, with a maximum spacing of 300 mm between them. The substrate must be stable and flat, with a slope of 0.5% (10 mm over 2 meters) directed away from the building walls. The joist should be anchored to the substrate at each support point.



Figure 2: Joists on a Wooden Structure

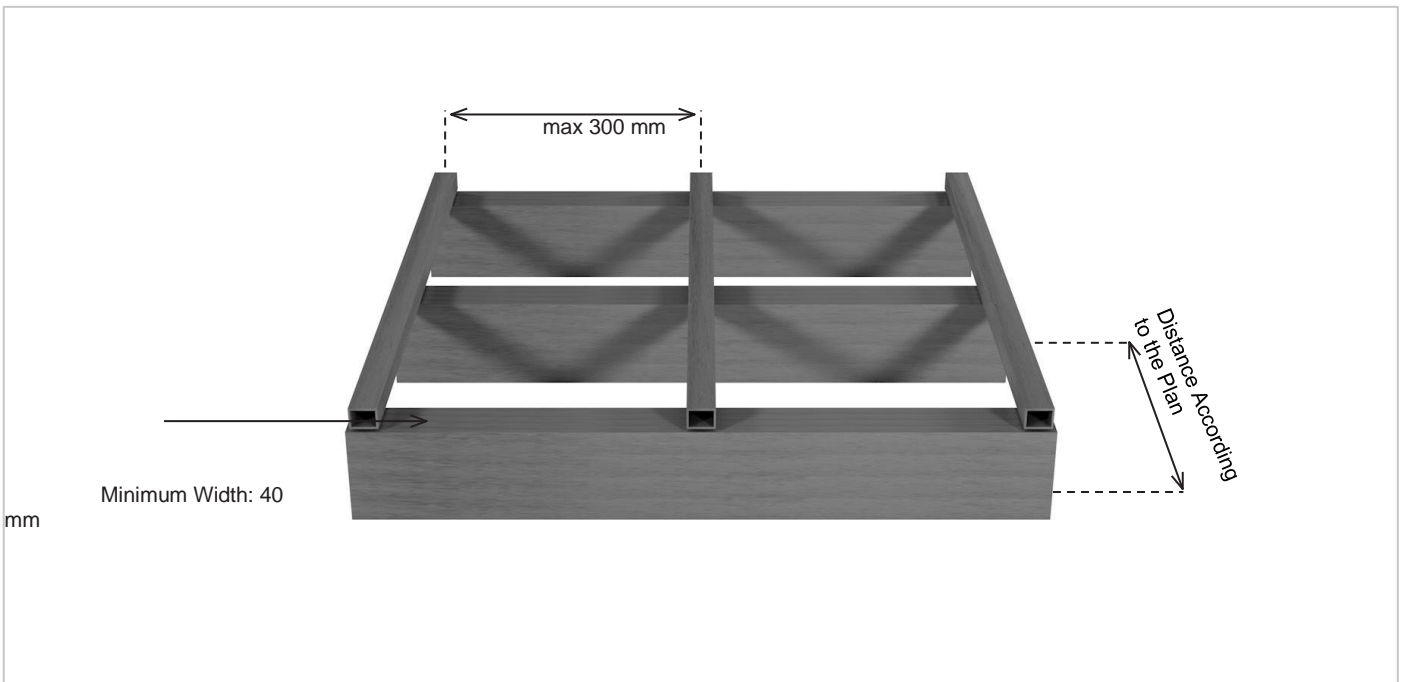


Figure 3: Joists on a Steel Structure

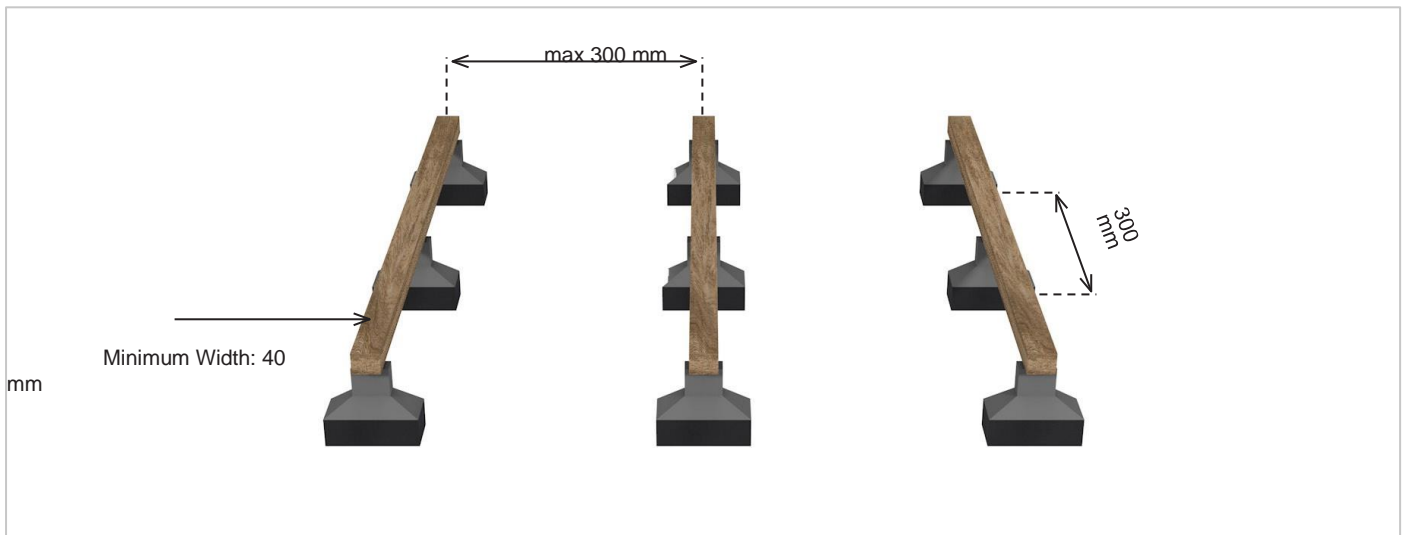


Figure 4: Joists on Adjustable Plastic Supports

SUBSTRATE ON GROUND - DECK INSTALLED ON CONCRETE SUPPORTS

When installing on the ground, you should first drill holes in the soil to a depth below the frost line, which varies by region but is typically around 1 m to 1.2 m. These holes should be reinforced and filled with appropriately prepared concrete. Above the ground, centered over the drilled holes, place cardboard forms for the concrete up to the height of the deck (accounting for the thickness of the joist and decking). The entire structure should have a slope of 0.5% (10 mm over 2 meters). The maximum distance between individual support points or pillars for the joists should be 300 mm. It is also possible to construct the deck with fewer pillars by pouring a reinforced concrete slab across the entire area. Another option is to use aluminum or wooden beams with greater load-bearing capacity than the WPC joist on the pillars or supports. However, these solutions require an individual design by qualified professionals. Below is an example of one solution using wooden beams. We recommend using wood species with a minimum density of 600 kg/m^3 (e.g., Siberian Larch).

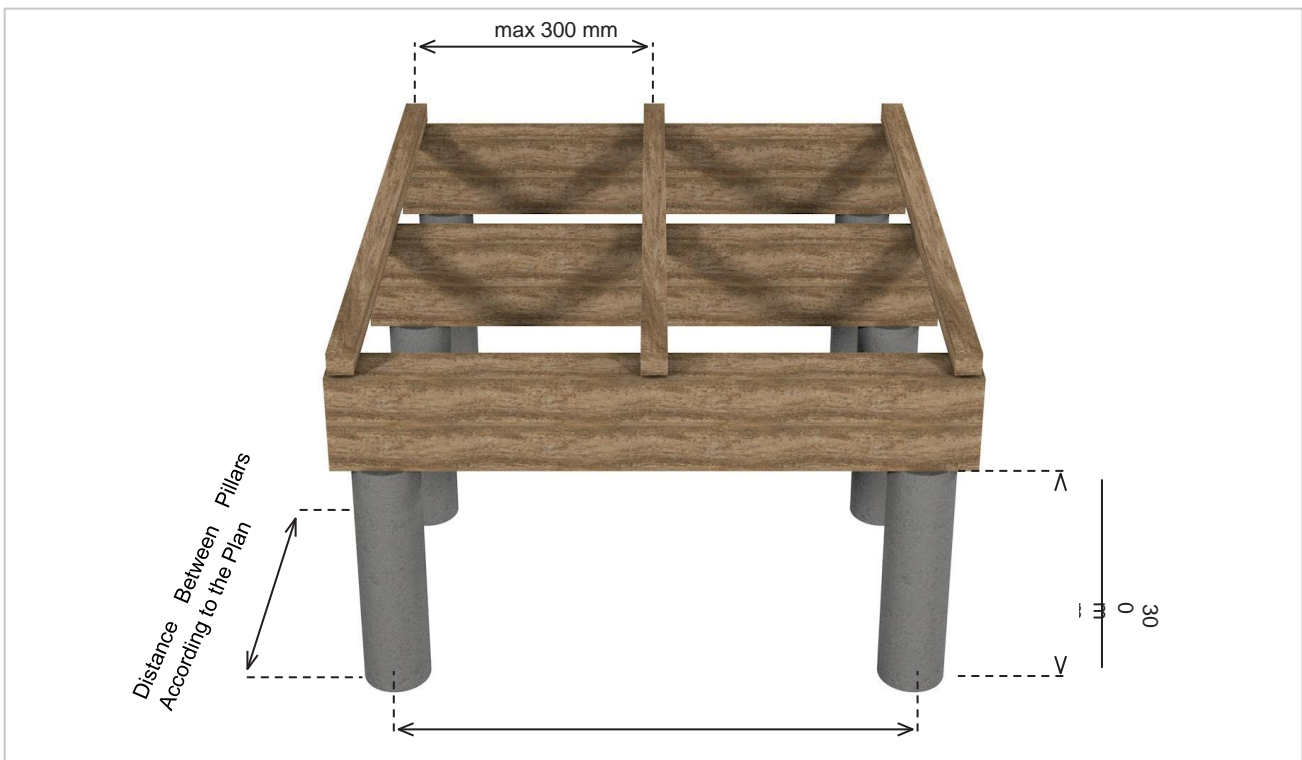


Figure 5: Substrate on Ground - Deck on Concrete Supports and Beams with Greater Load-Bearing Capacity than WPC Joists

SUBSTRATE ON GROUND - DECK INSTALLED ON CONCRETE SLABS

When installing on concrete slabs, you should first remove the top layer of soil to a depth of approximately 20-30 cm. Next, replace the removed soil with gravel and compact it to prevent further settling. Place the concrete slabs on this prepared substrate, ensuring that the free space between the support points for the joists does not exceed 350 mm.

It is important to note that this installation method may allow for ground movement during the winter, which could affect the surface of the deck. Global-Biznes Sp. z o.o. is not responsible for any issues arising from this condition.

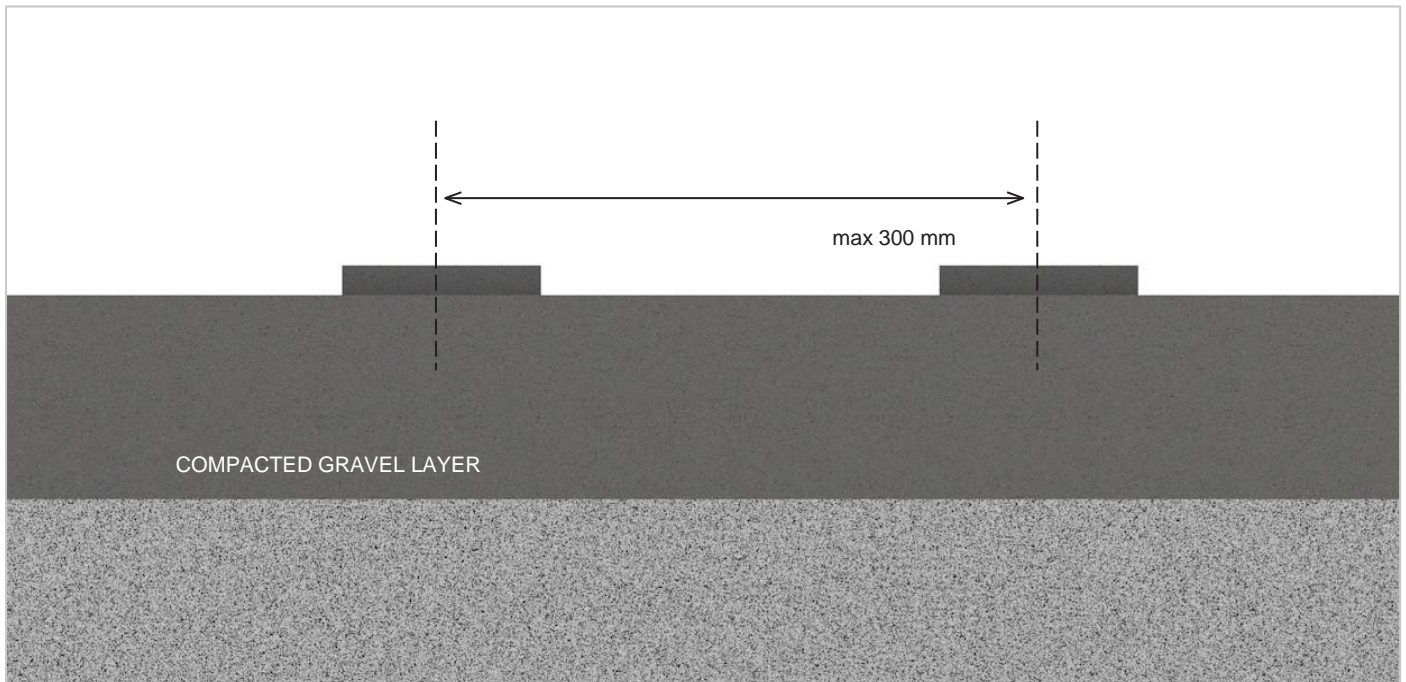


Figure 6: Substrate on Ground - Deck on Concrete Slabs

SUBSTRATE ON BALCONY OR INVERTED ROOF DECK WITH WATERPROOFING

When constructing floating decks, joists should be arranged in a so-called frame. This is typically done during installations on balconies, garages, etc., where a horizontal waterproofing layer has been applied.

To create the frame, first, place the joists along the outer edges of the deck, and then lay additional joists loosely, perpendicular to the decking, with a maximum spacing of 400 mm (center to center). Additional cross bracing should be installed between the joists, with a maximum spacing of 3000 mm between the braces.

The entire structure should have a minimum slope of 0.5% (10 mm over 2 meters) away from the building to allow for proper water drainage outside the deck area. This applies to both the structure supporting the joists and the decking itself.

For lightweight decks with smaller surface areas, it is recommended to use concrete weights placed at the corners of the deck. These weights should be secured using angle brackets, fastening them to both the weight and the joist.

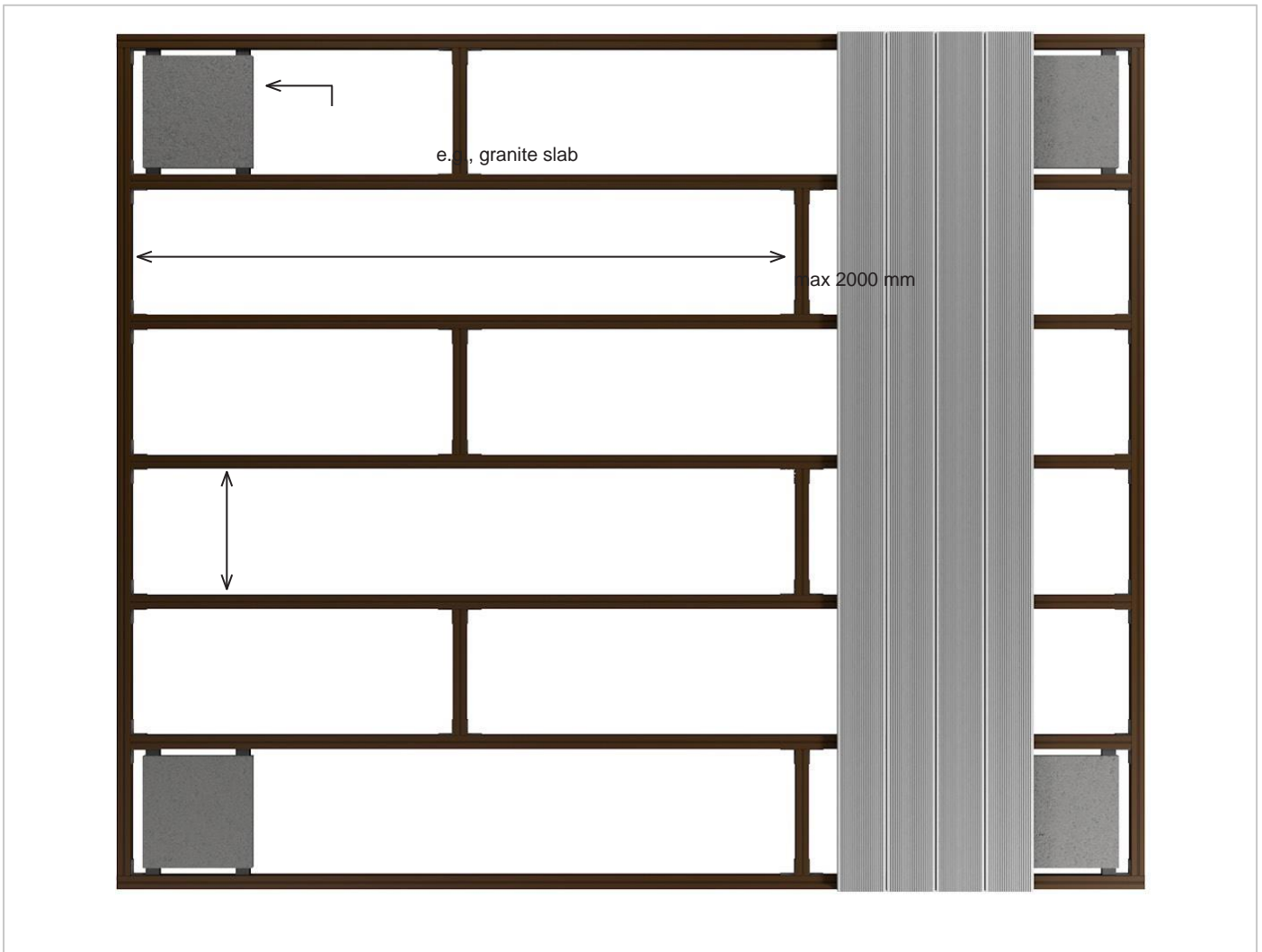


Figure 7: Floating Deck - Joist Frame Connected with Angle Brackets, Weighted with Concrete Slabs

INSTALLATION OF JOISTS

Joists should be installed with a spacing of 300 mm between the centers of the joists.

They must be laid flat with the grooves facing up. These grooves are specifically positioned to ensure proper installation of the mounting clips. A 50 mm gap should be left between the wall and the joist. To allow for good water drainage from the surface beneath the deck and to maintain the integrity of the elements during use, a 10 mm expansion gap should be made at the butt joints of the joists.

The joists should be secured to the concrete using screws anchored in 6 mm x 80 mm expansion plugs* (joists must not be embedded in the concrete). To attach the joist to the concrete slab, use a larger drill bit to create a hole in the top side of the joist, at least as wide as the screw head with a washer, and drill the bottom side with a narrower bit to create a pilot hole for the screw. Joists should be anchored to the substrate at intervals of at least 600 mm, and the first/last anchor should be placed no less than 50 mm from the start/end of the joist. The screw should be driven until you feel the first resistance, which indicates the screw head has made contact with the bottom side of the joist. The 4DECK composite decking system does not include mounting screws for securing the joist to the substrate.

A 10 mm gap should be left between the joists laid in length (end-to-end).

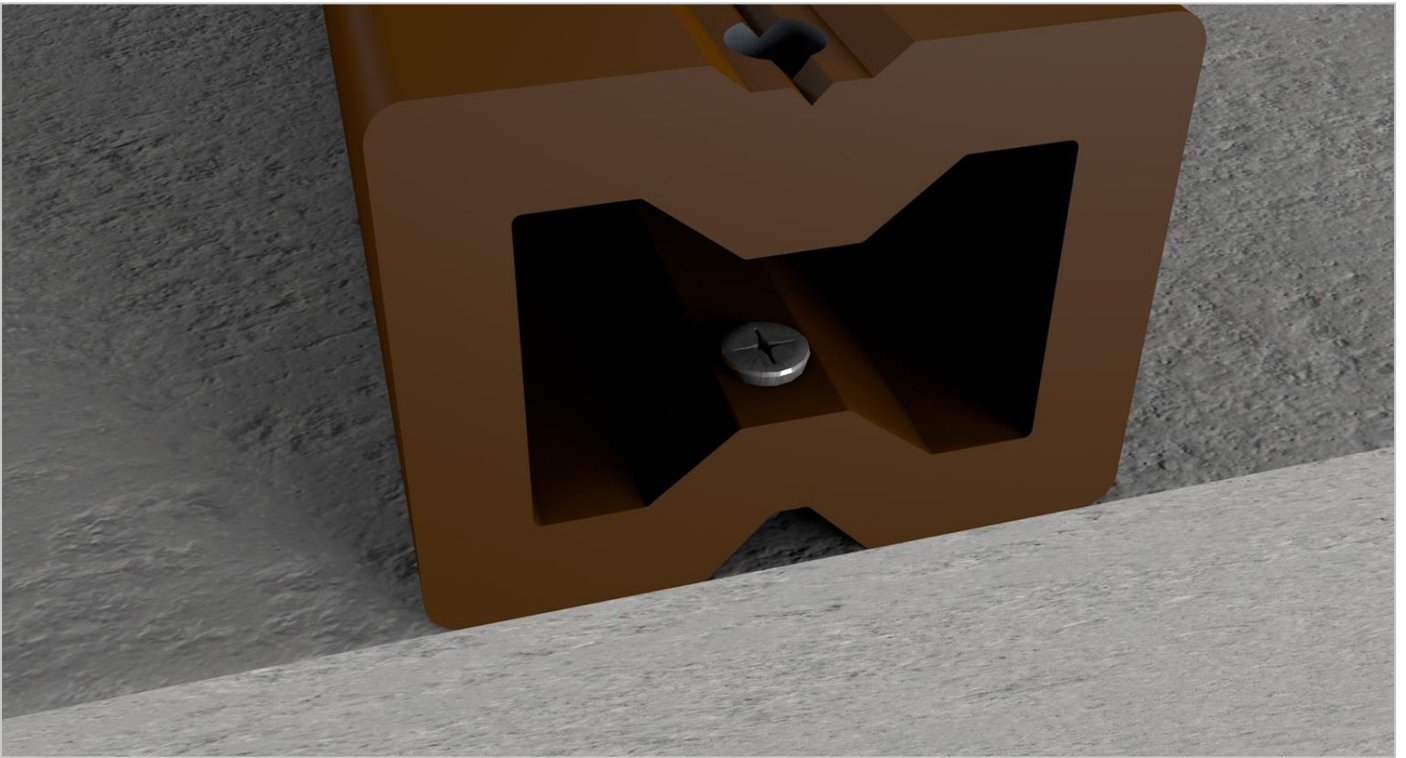


Figure 8

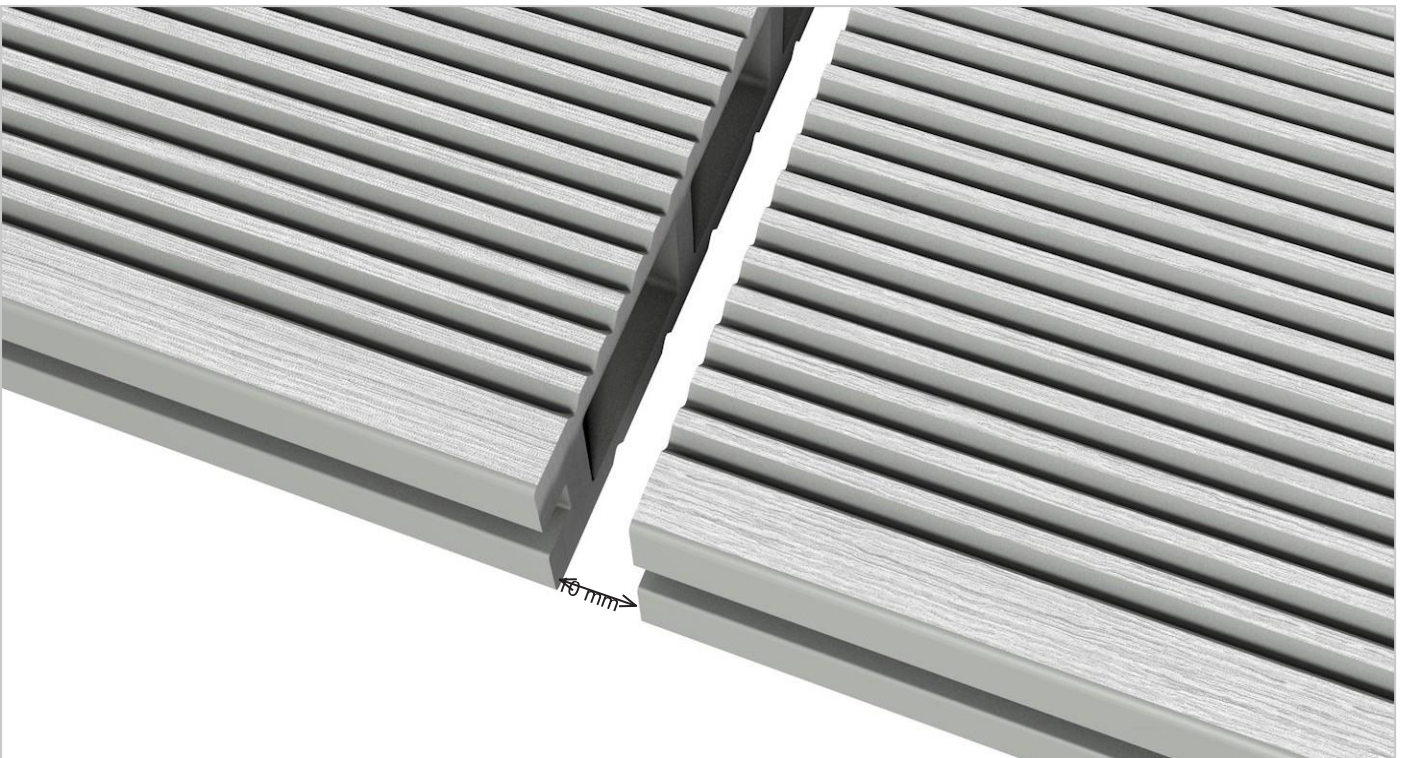


Figure 9.

When installing joists of uneven lengths, it is recommended to arrange them in a staggered pattern. If it is necessary to join boards end-to-end, two rows of joists should be spaced 20 mm apart. A 10 mm expansion gap should be maintained between the joined boards. The size of the expansion gap depends on the temperature during installation—smaller gaps should be left at higher temperatures than at lower temperatures.

When installing joists against a wall, an expansion gap of 10 mm to 15 mm should be left between the wall and the joist. The ends of each board must rest on separate joists and be secured with individual clips.

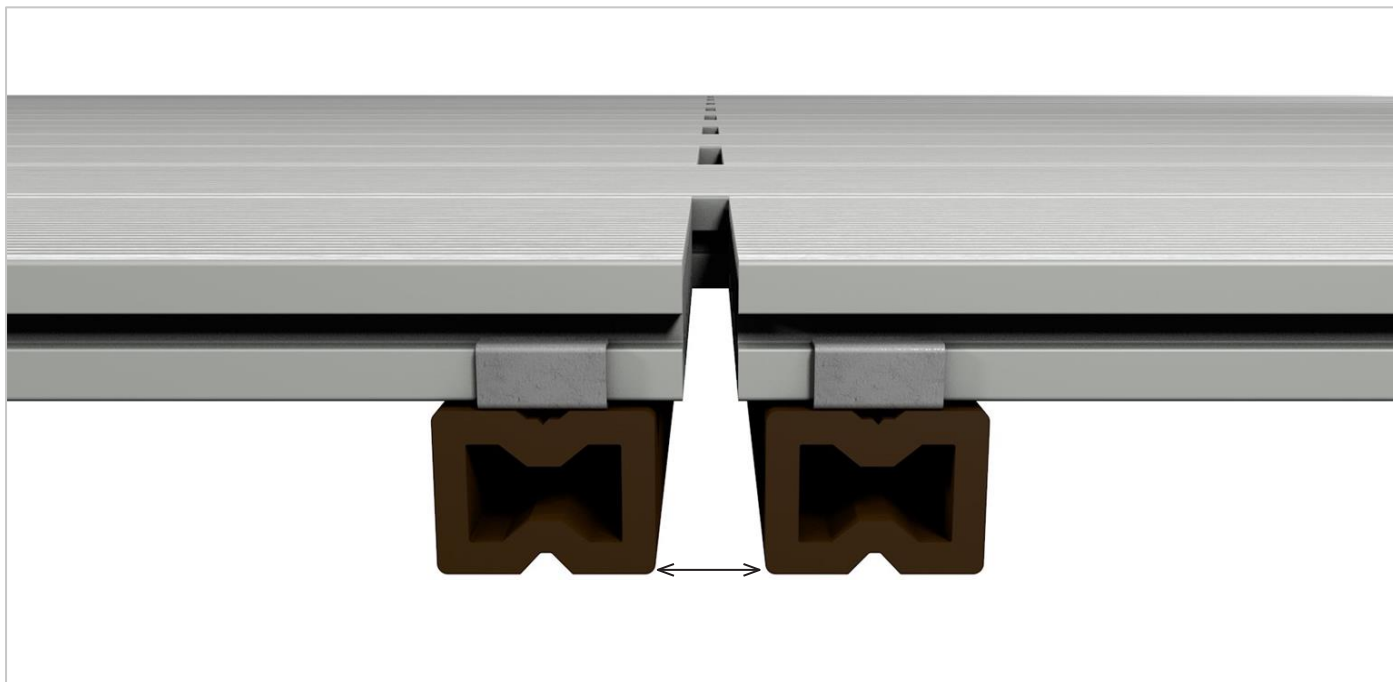


Figure 10.

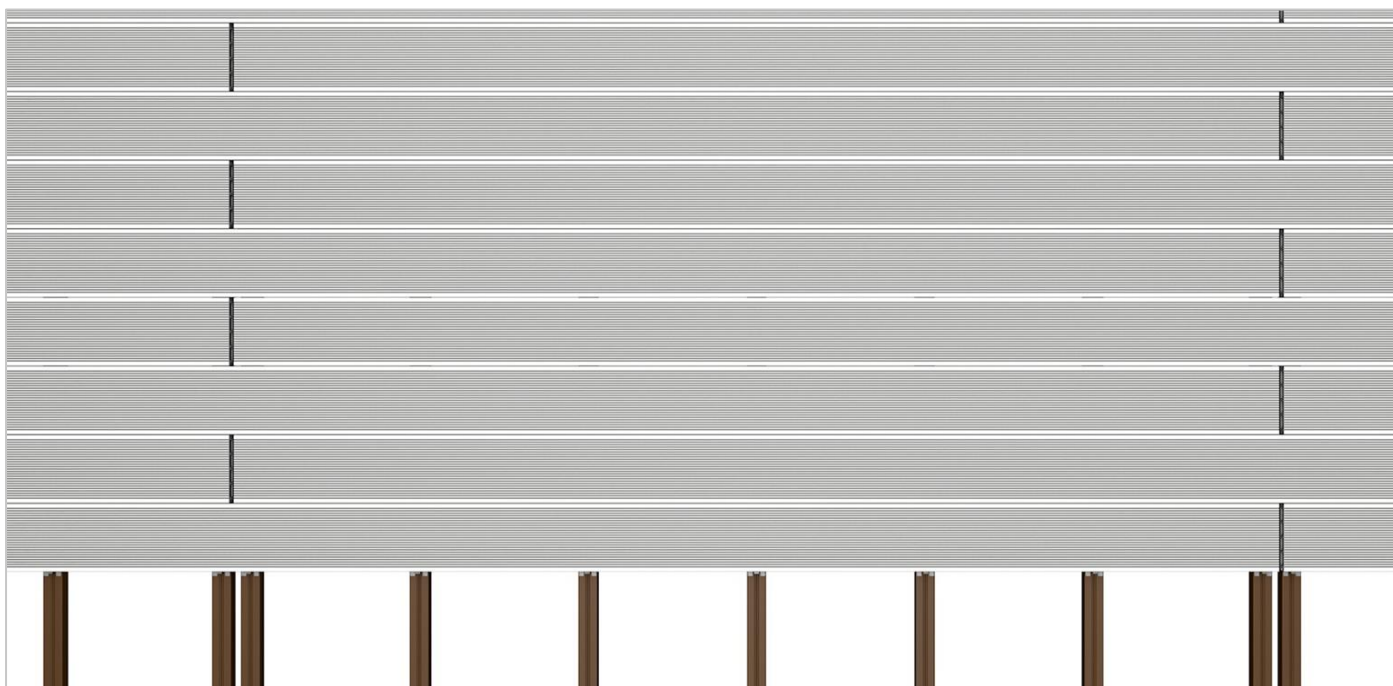


Figure 11: Joist Layout at Butt Joint of Boards - Staggered Deck Installation

Decking boards can also be installed directly on aluminum, wood, or galvanized steel profiles. If using these solutions, it is essential to follow the manufacturers' guidelines, as different manufacturers may recommend varying distances between support points. However, it is generally accepted that the support points for an aluminum profile measuring 30 mm x 30 mm with a wall thickness of 2 mm are 500 mm apart, while for a profile measuring 30 mm x 50 mm with a wall thickness of 2 mm, the support points should be 800 mm apart (when installed at a height of 50 mm). Ultimately, adhere to the specifications outlined in the project.

When installing decking boards on wooden joists, ensure that the joists are properly treated and made from selected hardwood species. Using softwood joists (such as pine or spruce) can lead to early decay, compromising the integrity of the deck. Global-Biznes Sp. z o.o. does not take responsibility for the durability and stability of the entire structure.

On point-based substrates, such as plastic supports or concrete slabs, joists should not be installed vertically. This method is only suitable for flat surfaces that the joist can contact fully. Vertical joists should be secured using elastomeric adhesive.

If significant concentrated loads are present on the deck, such as heavy objects or high foot traffic (e.g., stairs, walkways), the distances between the support points for the joists should be reduced accordingly.

To enhance the stability of the structure, increase the surface area of the joist supports. Low-expansion polyurethane foam can be used between the joist and the substrate along the maximum possible length of the joists.

INSTALLATION OF DECKING BOARDS

Before securing the clips, pilot holes should be drilled using a 2 mm bit. Always align the clips with the groove in the joist. Each board must be supported by at least three joists over a length of 1 meter.

Start the installation by attaching the starter clips to the joists. The starter clip should be fixed at the edge of the joist. Remember to maintain a minimum gap of 10 mm from the building or other fixed elements.

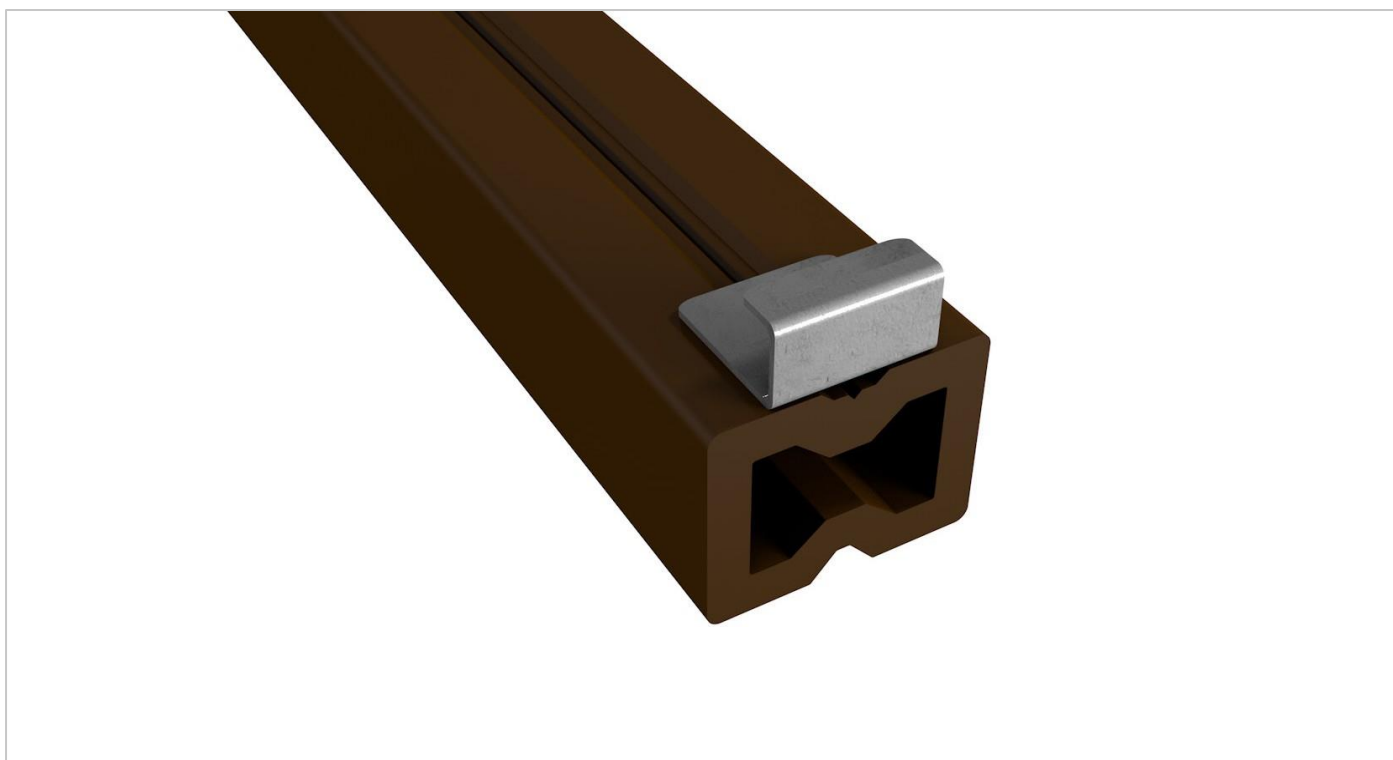


Figure 12.

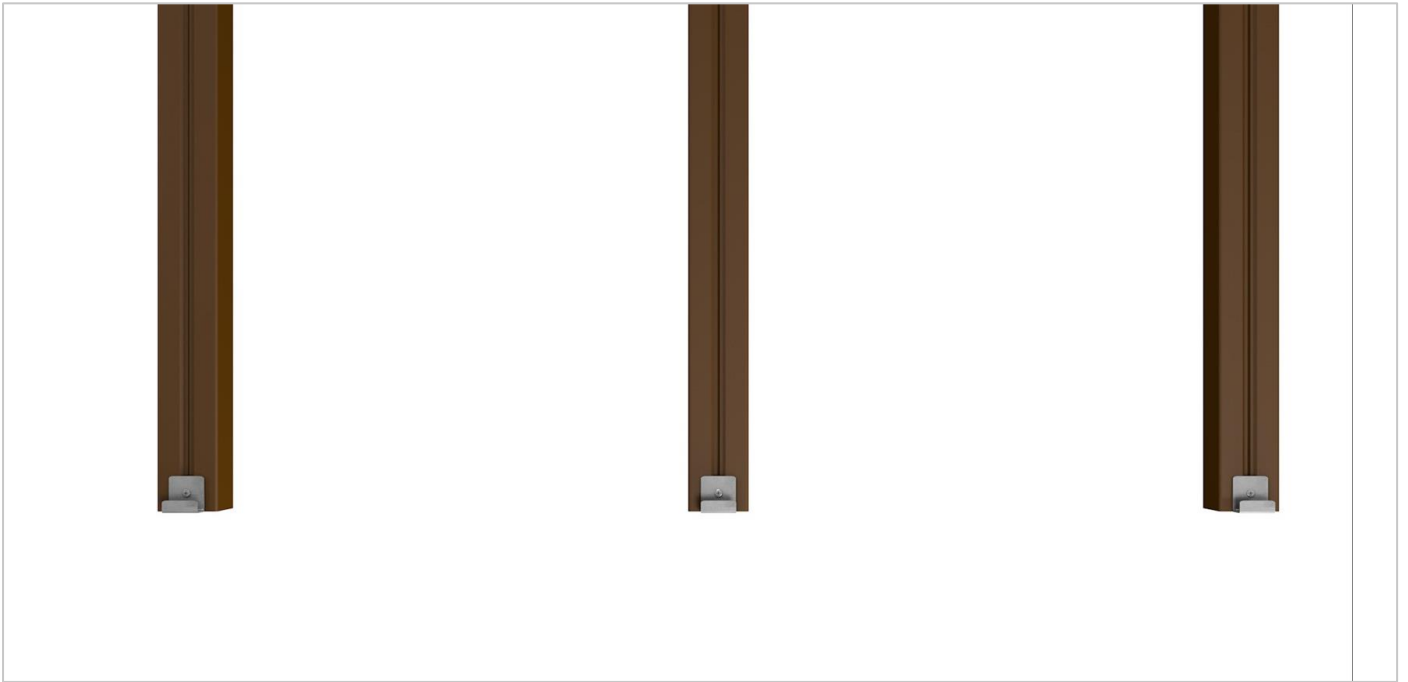


Figure 13.

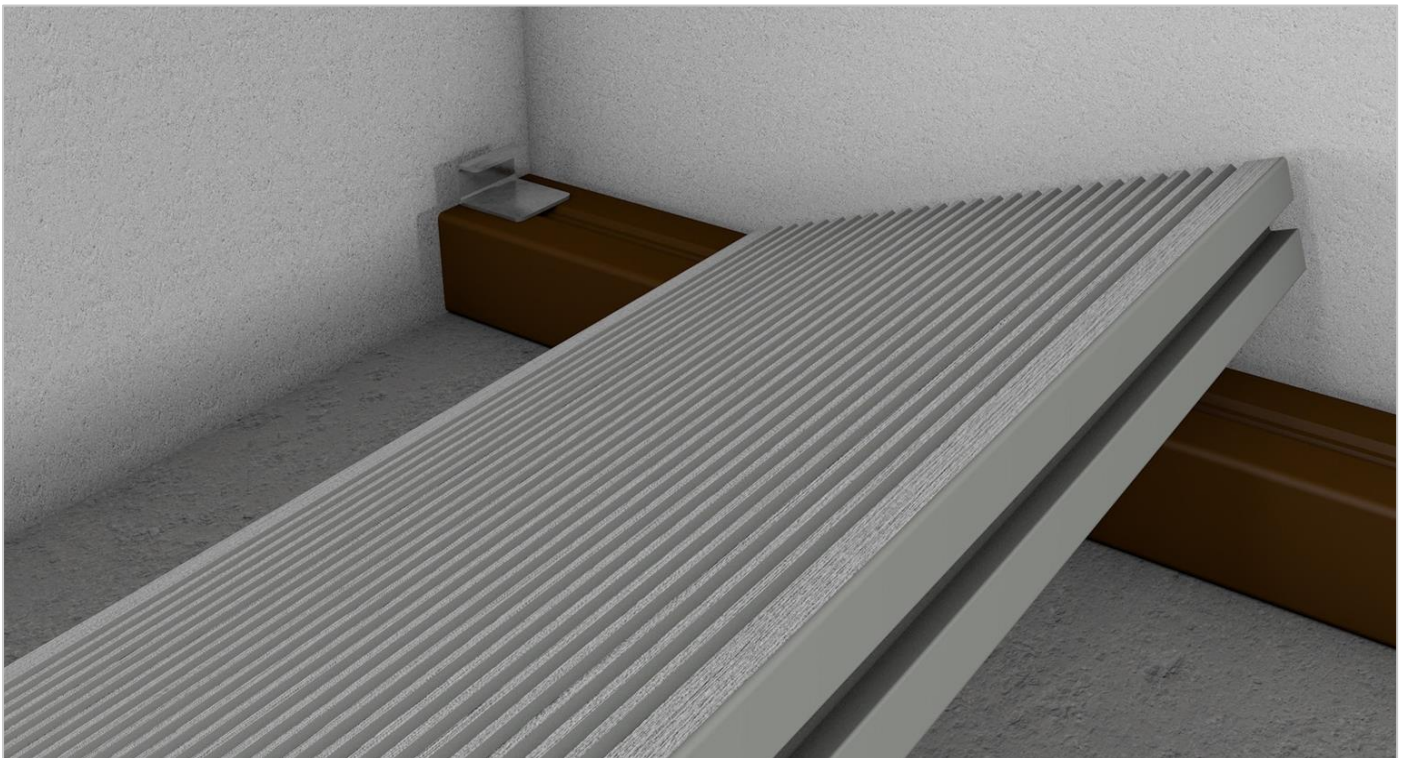


Figure 14: Installation of the First Board on the Starter Clip

After securing the starter clips, you can install the decking boards. Insert the board so that it is firmly held by the starter clip, then press it down and fasten the other edge using the mounting clip. This process should be repeated for the subsequent boards on all joists. The mounting clips ensure the proper spacing between the boards.

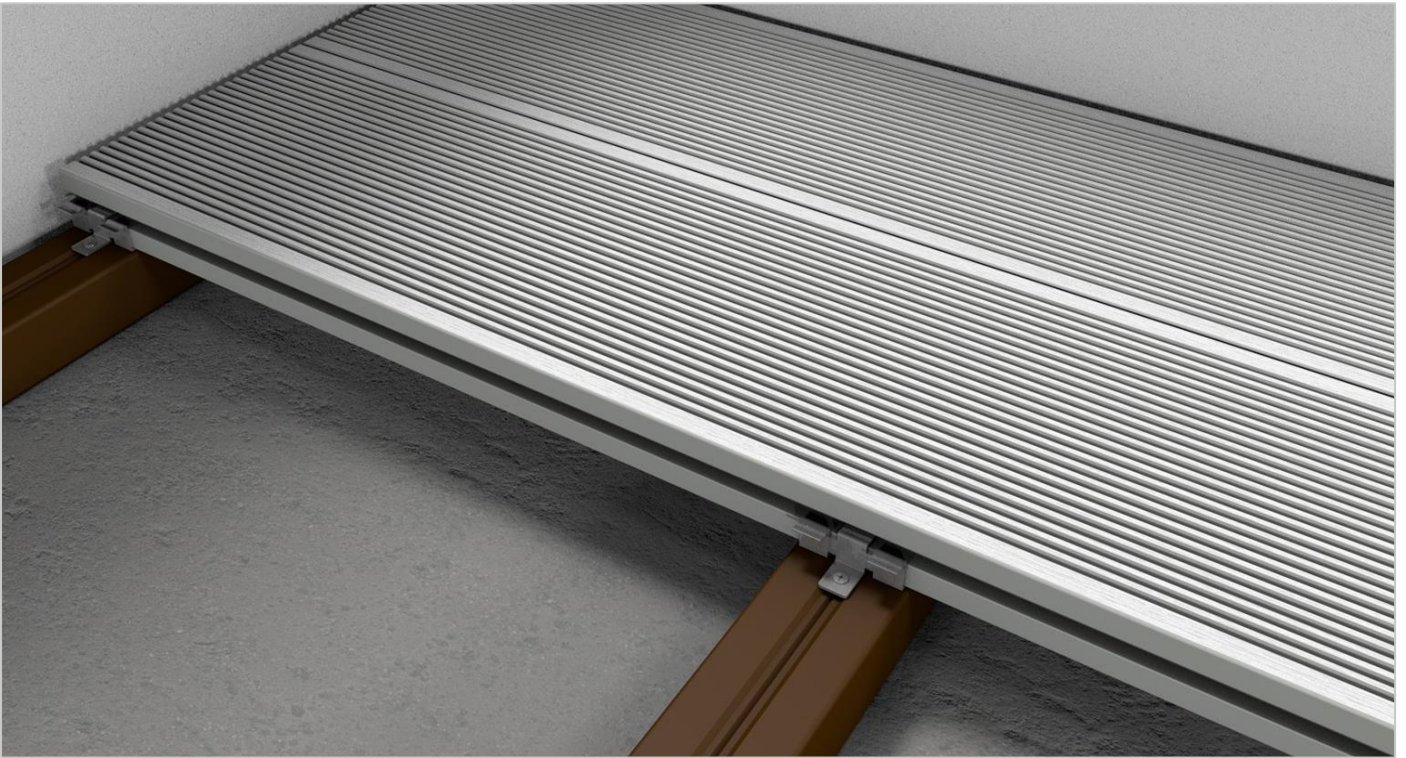


Figure 15: Installation of the Next Board on the Mounting Clip

When joining boards of different lengths on the same deck, it is recommended to arrange them in a staggered pattern. In this case, the ends of the boards must rest on separate joists and be secured with individual clips. A minimum gap of 10 mm should be maintained between the boards laid end-to-end.

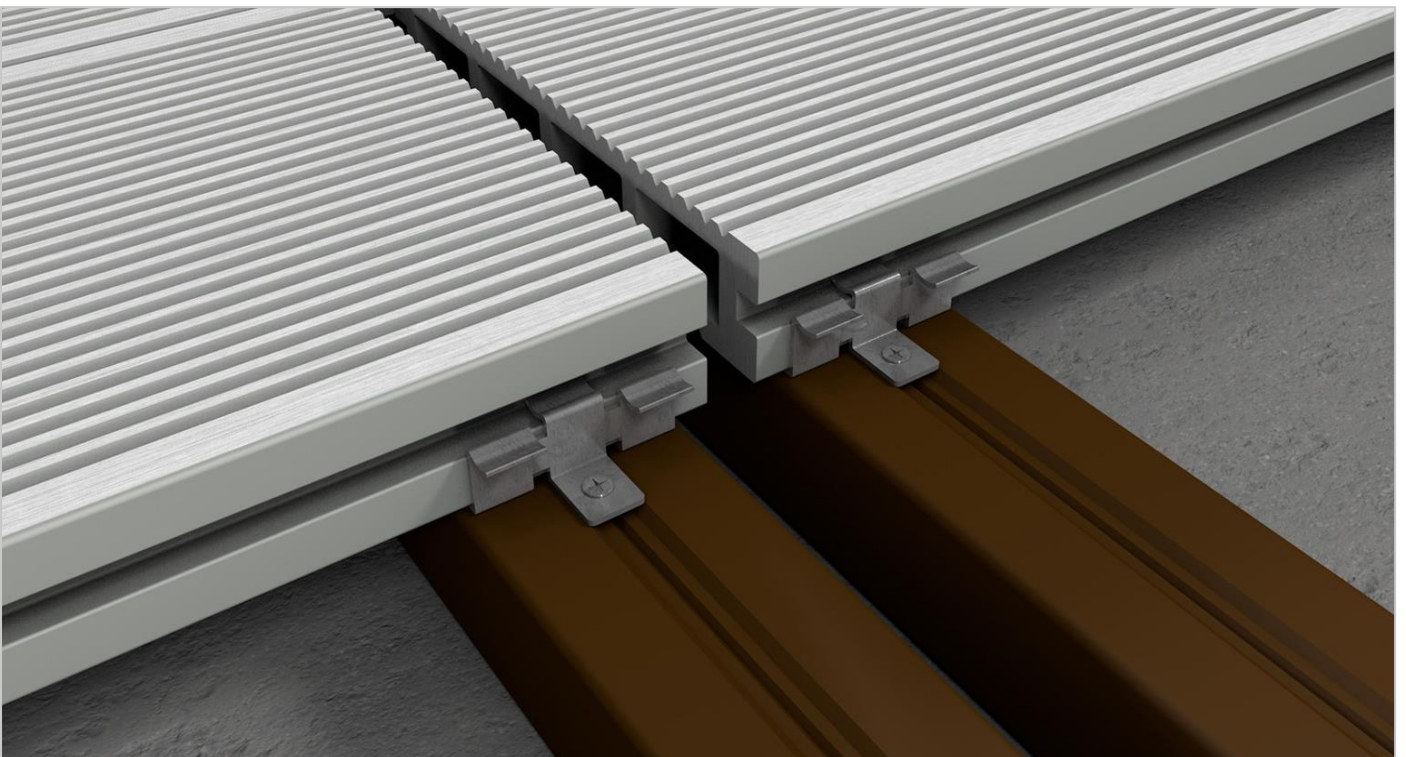


Figure 16: Butt Joint of Boards on Two Separate Joists (Expansion Gap 1 cm)

The installation of the last board should be done by screwing it (after pre-drilling) at a 45-degree angle through the bottom edge of the board into the joist.

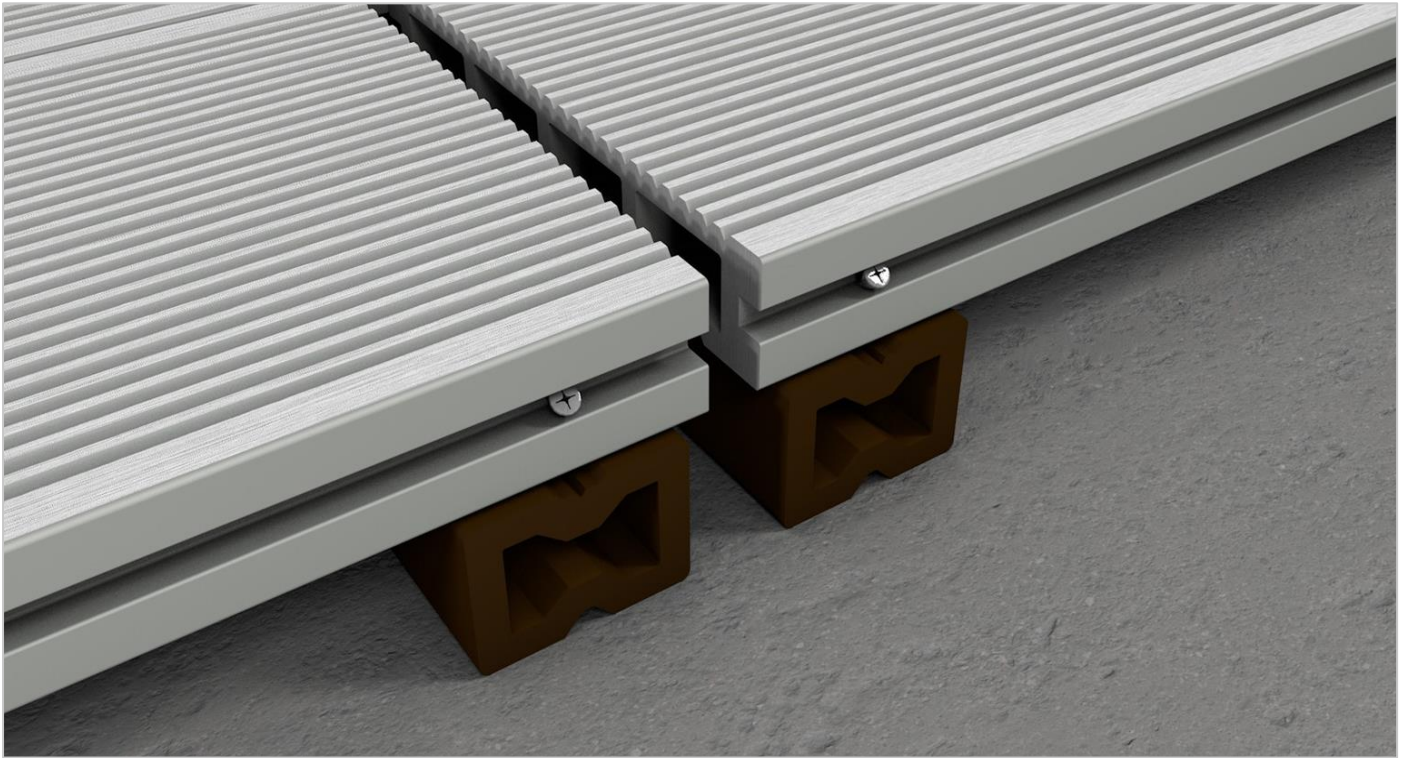


Figure 17: Installation of the Last Boards with Screws Fastened at an Angle

FINISHING THE DECKING TERRACE

To finish the decking terrace, we use:

ANGLE STRIP
48 mm x 48 mm



END CAP



TERRACE SKIRTING BOARD
72 mm x 10 mm



FINISHING WITH A SKIRTING BOARD

Skirting boards at the corners of the deck should be cut at a 45° angle and secured using elastomeric adhesive or self-drilling screws. To allow for minimal movement, elliptical holes should be used for the screws. The skirting board should be mounted on the side face of the joist.

Due to humidity and temperature, the decking boards will expand, so a 5 mm gap is required between the composite skirting board and the front surface of the joist. Without this gap, the skirting board may be damaged.



Figure 18: Installation of the Skirting Board with Self-Drilling Screws

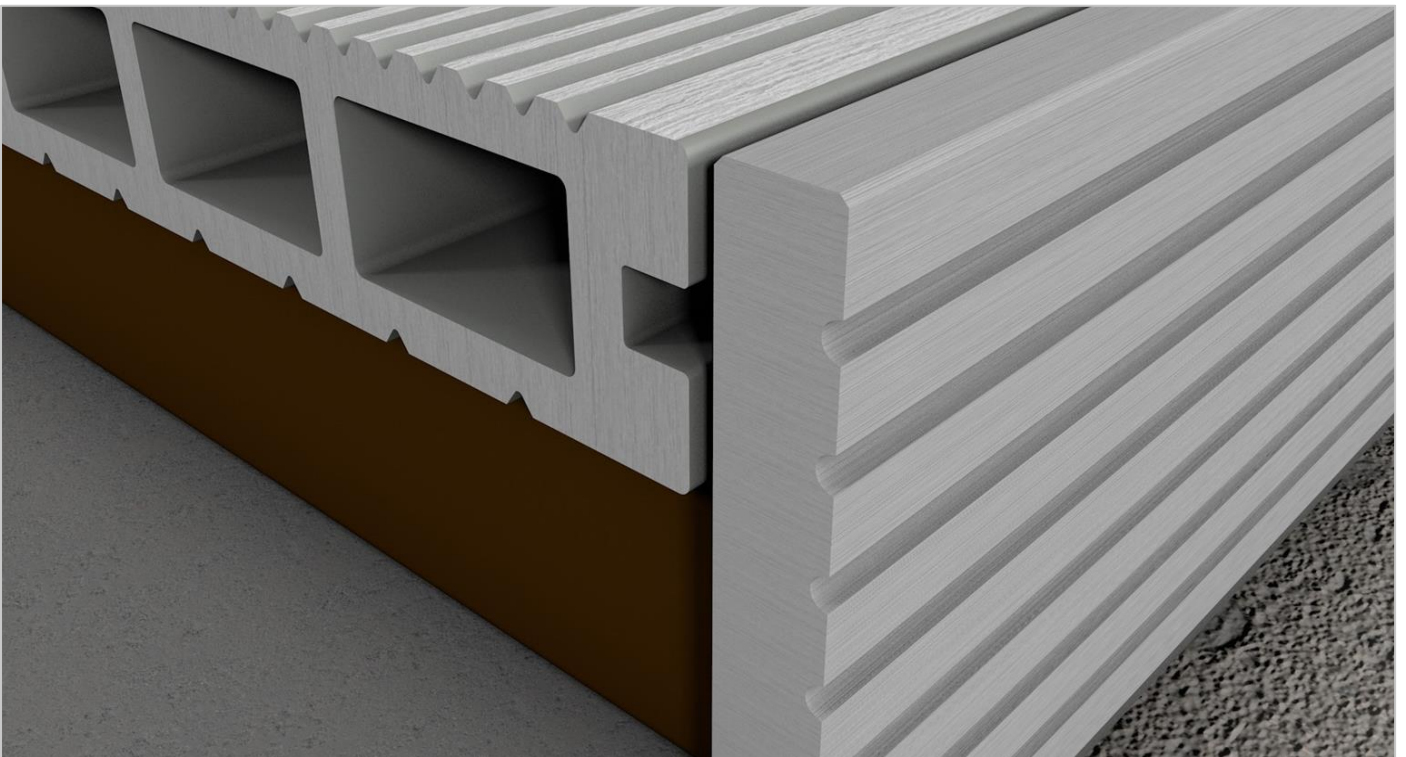


Figure 19: Installation of the Skirting Board with Elastomeric Adhesive

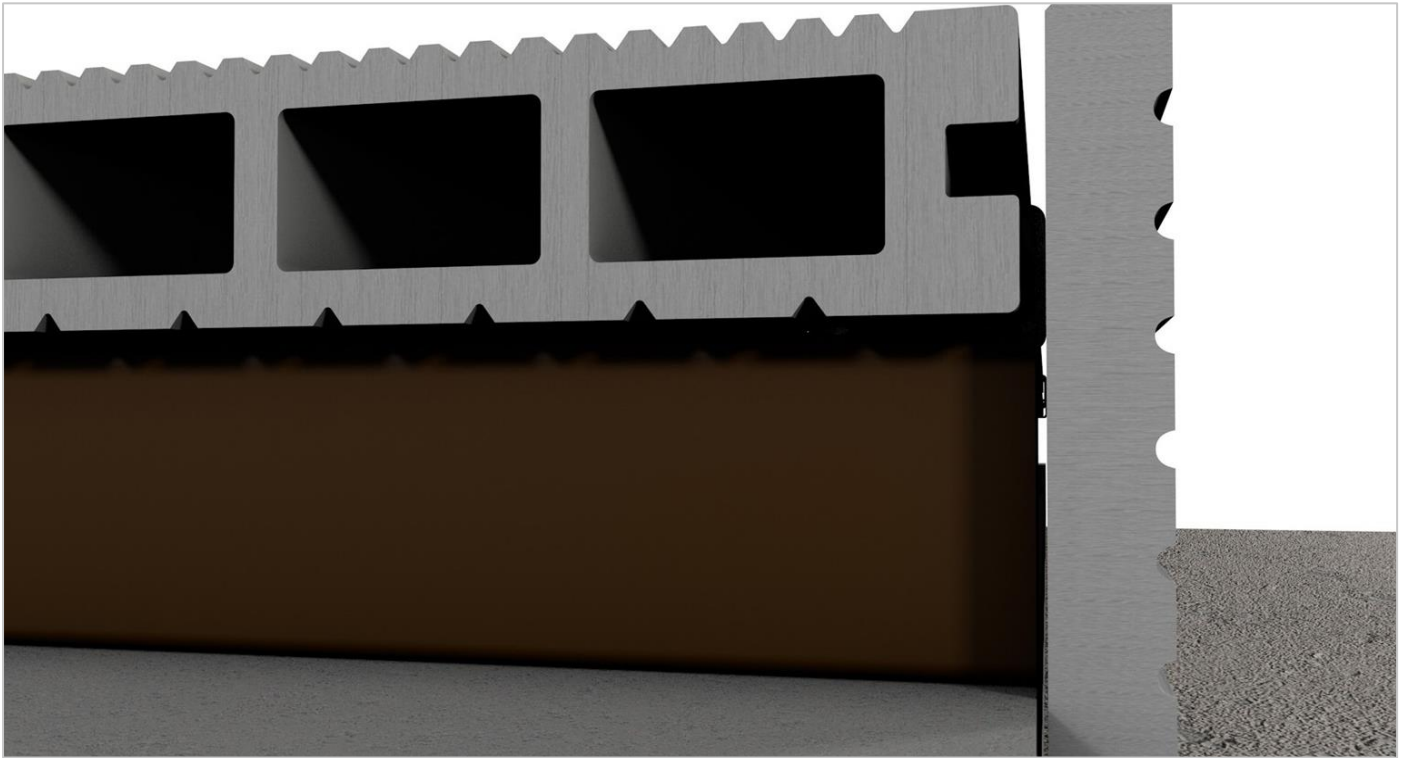


Figure 20: 5 mm Gap Between the Composite Skirting Board and the Decking Board

FINISHING WITH AN ANGLE TRIM

The installation of angle trims is very similar to that of skirting boards. The trims at the corners of the deck should also be cut at a 45° angle and then secured using elastomeric adhesive or self-drilling screws.

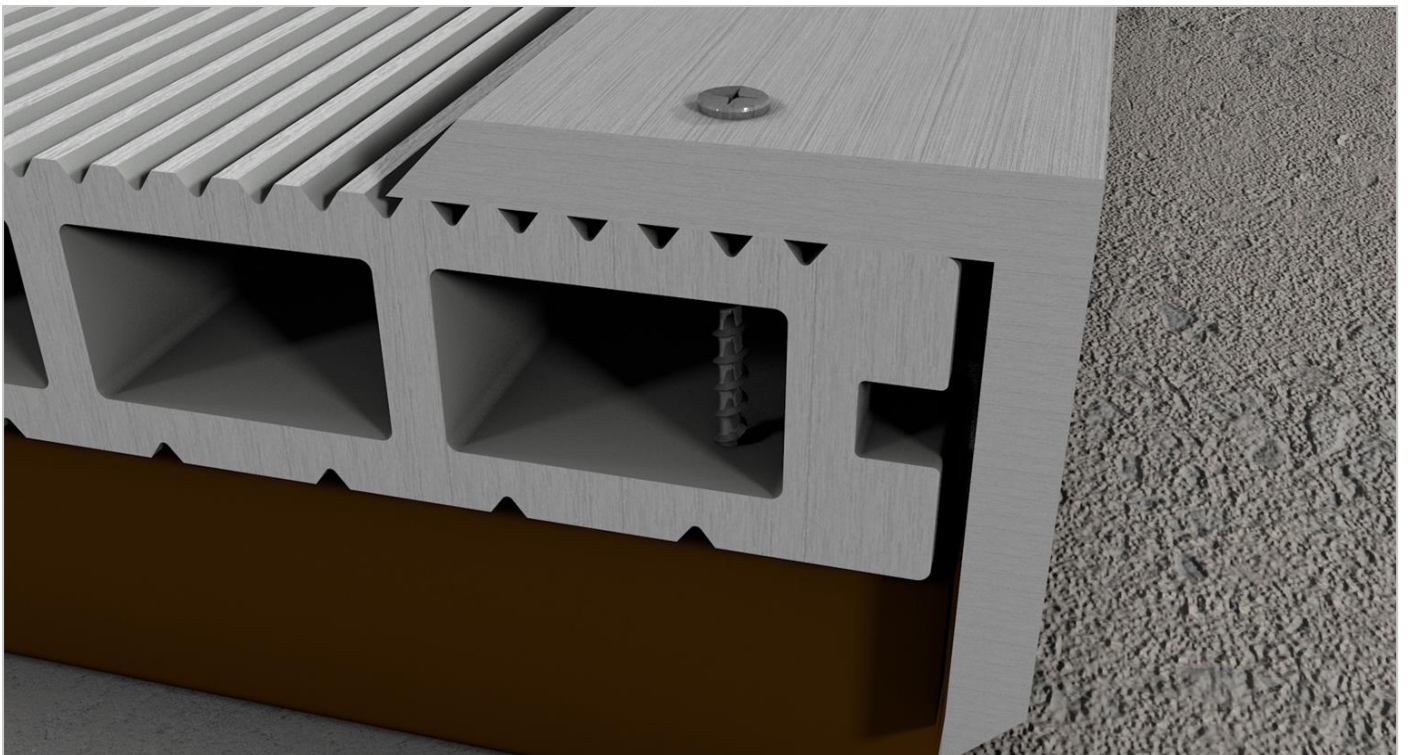


Figure 21: Installation of the Trim Using Self-Drilling Screws from the Side of the Boards

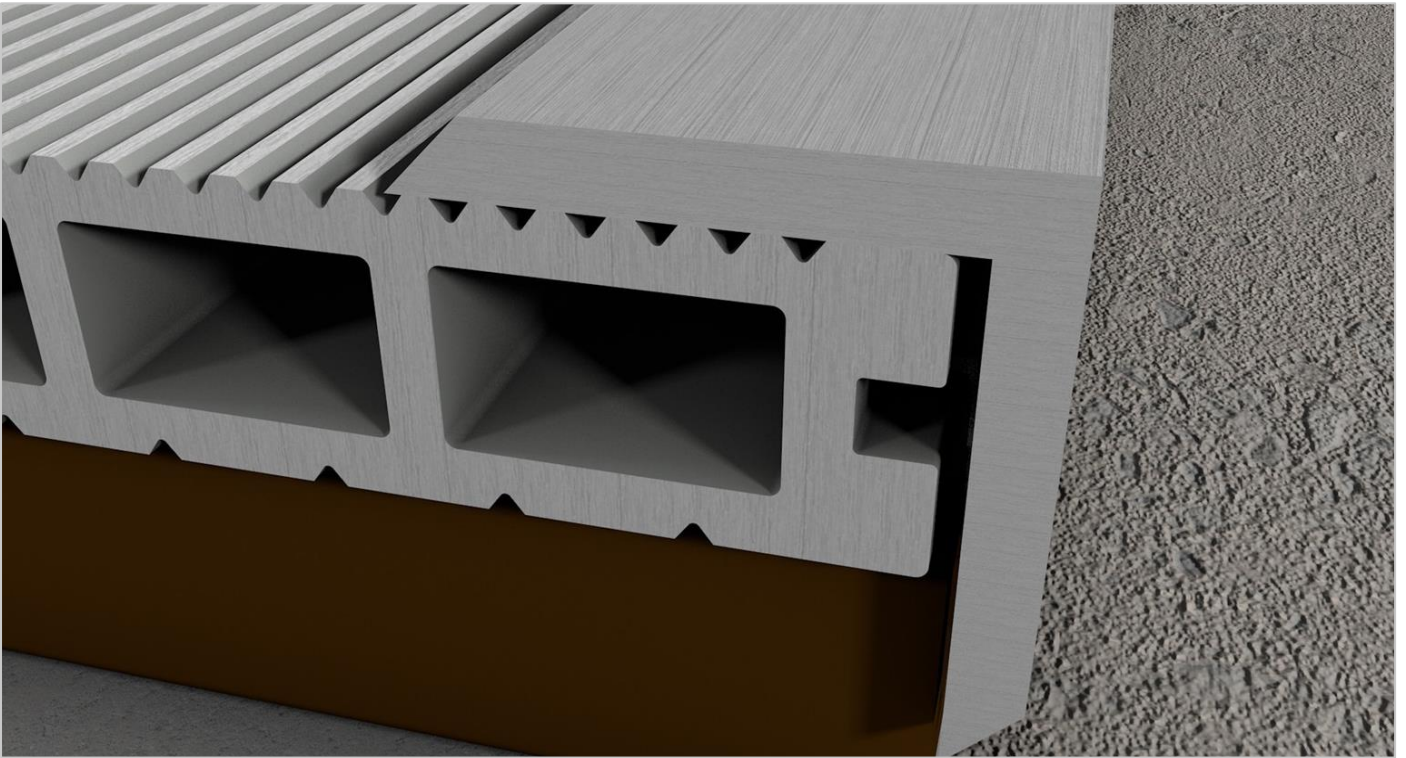


Figure 22: Installation of the Trim Using Elastomeric Adhesive from the Side of the Boards

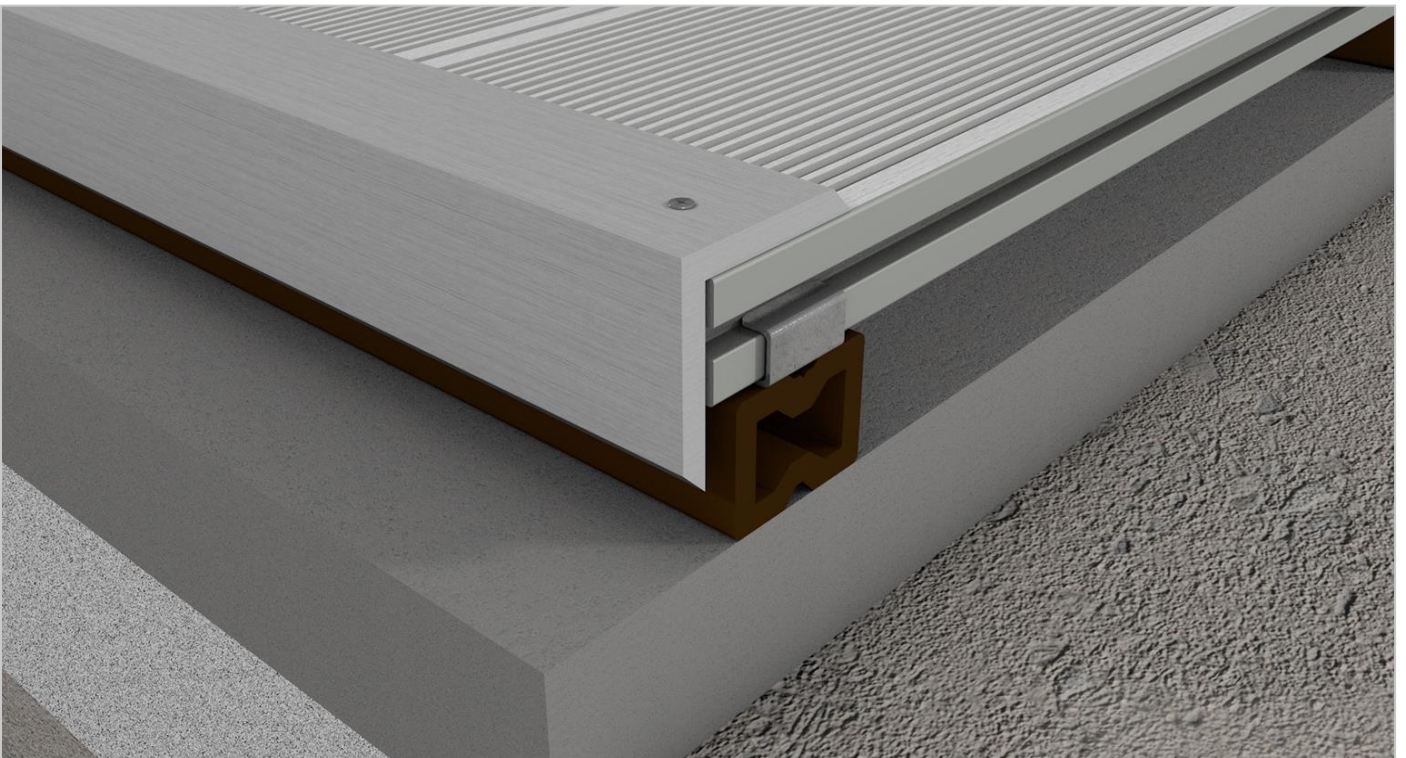


Figure 23: Installation of the Trim Using Self-Drilling Screws from the Front of the Boards

INSTALLATION OF END CAPS

The end caps should be glued to the board using elastomeric adhesive.

ADDITIONAL INFORMATION

1. During the initial period of use, water streaks may appear on the surface after rain. This is a natural process, and these streaks should diminish after a few weeks of using the terrace.
2. Due to the high content of wood flour, some color variation between the boards is acceptable. A natural characteristic of composite boards is color change, which occurs under the influence of sunlight. This does not affect the lifespan of the terrace and is not considered a defect. To maintain a uniform color across the surface, it is recommended not to permanently cover any one area, such as with planters or garden furniture.
3. Given the hollow structure of the boards, it is advisable to avoid heavy point loads (e.g., furniture legs) that could cause mechanical damage to the boards. To mitigate the effects of point loads, it is recommended to use rubber pads. Furniture legs should have a minimum dimension of 3 cm x 3 cm; otherwise, pads should be used.

IMPORTER:



GLOBALbiznes
DREWNO Z CAŁEGO ŚWIATA

Global Biznes Sp. z o.o.
ul. Warszawska 415, Koczargi
Nowe, 05-082 Stare Babice

