TIPS & TRICKS

TERRACE AND FACADE CONSTRUCTION

2024

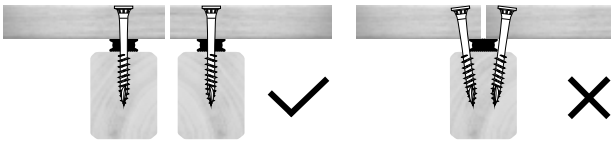
EN

SUBSTRUCTURE SETUP

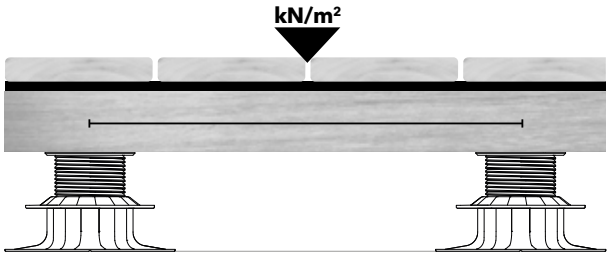
The substructure is the pivotal structural element in decking construction, enduring the highest levels of stress, necessitating precise installation and alignment. Any irregularities in the substructure can result in subsequent faults and early damage to the entire decking structure, including the fastening hardware.

It is crucial to maintain consistent centre-to-centre distances for both timber and aluminium substructures, irrespective of the fixing method employed.
Greater center distances may result in increased shear forces per fastener, potentially jeopardizing the fasteners resilience against dimensional changes and board deformation.

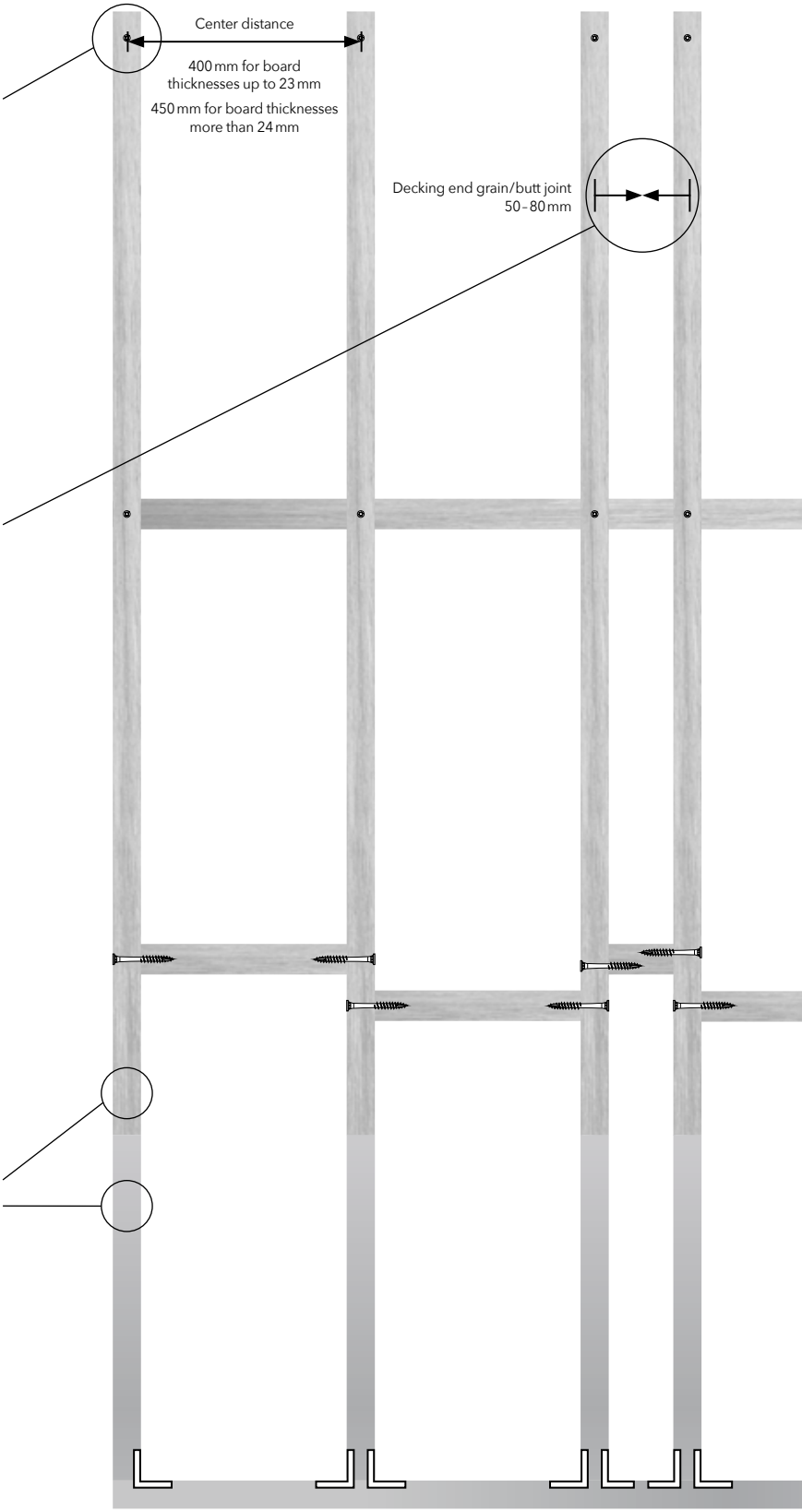
Attaching board end joints to only one substructure increases moisture absorption in the end grain, resulting in excessive swelling and shrinkage of the boards. This setup also encourages the accumulation of dirt, and meeting the required screw distance from the board ends becomes unattainable.



The spacing between supports should be calculated to prevent bending of the substructures. Excessive distances between supports may result in deflection when walked upon, leading to additional stresses on the decking fixtures and potential failure.
Recommended design loads:
Private use ≈ 4 kN/m²
Public use ≈ 6 kN/m²



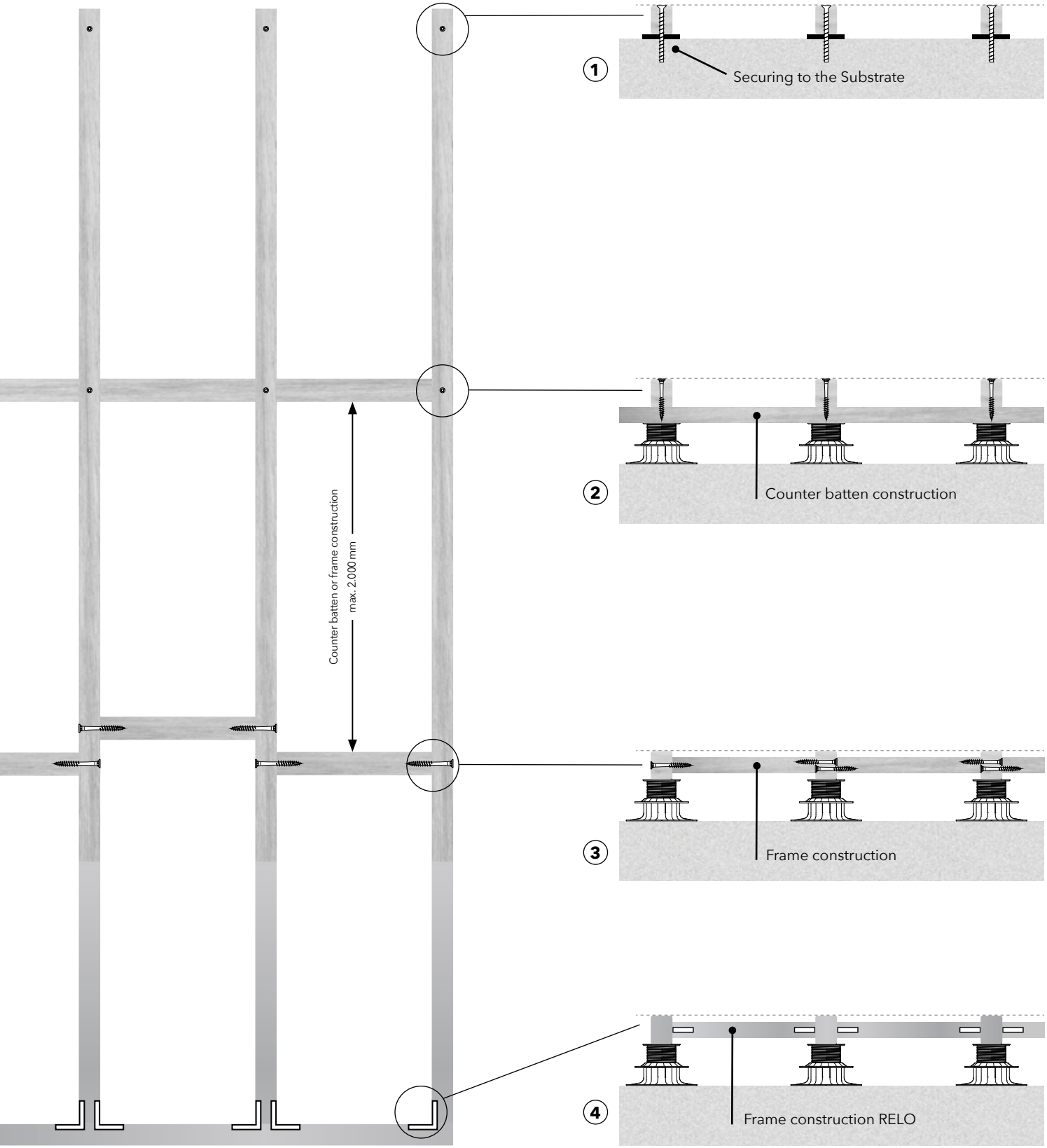
The terrace construction substructure can be made from wood, wood-like materials, or aluminium. When using wooden substructures, it's crucial to prioritize durability and dimensional stability. Any bowed or warped substructures should be identified and excluded during installation or, if feasible, utilized as cross bracing for frame constructions. Substructures made of wood, particularly imported varieties, may exhibit varying densities (kg/m³), so it's advisable to confirm in advance whether the fasteners are compatible.



The decking substructure's substrate must provide a durable and freeze-resistant load-bearing surface. To facilitate proper water drainage, ensure there is a sufficient slope or drainage system in place. It is imperative that the substrate prevents the formation of stagnant water (waterlogging).

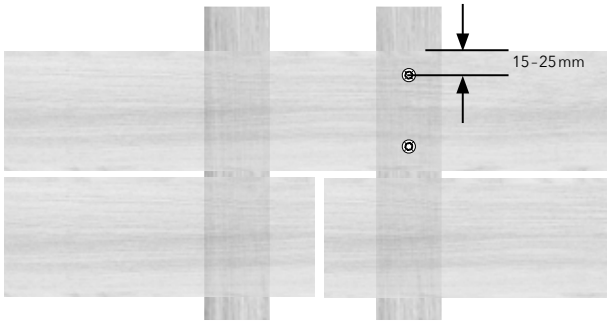
When a substructure cannot be securely anchored to the ground (substrate), it's essential to implement a rigid structure, such as a frame construction or counter-batten construction. These methods guarantee that the terrace remains flat in position and prevents the lifting of support-bearing points, particularly around the perimeter.

DESIGN OPTIONS:

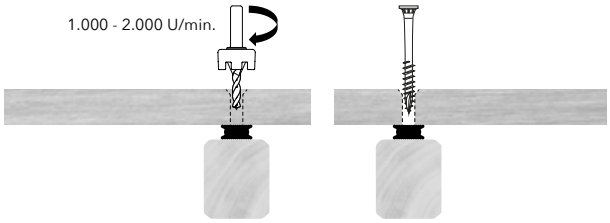


TIPS & TRICKS
FIXING INSTRUCTIONS

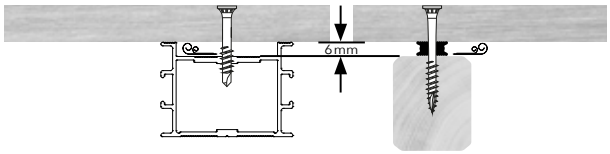
Ensure the screw distance from the end of the board falls within the range of 50–80 mm. If the distance is too extensive, the boards may twist and warp; conversely, if it's too small, cracks may form.
The joint spacing, denoted as **X**, is influenced by the type of wood and installation conditions, and it is crucial to verify this with the wood supplier to avoid compromising the overall installation.



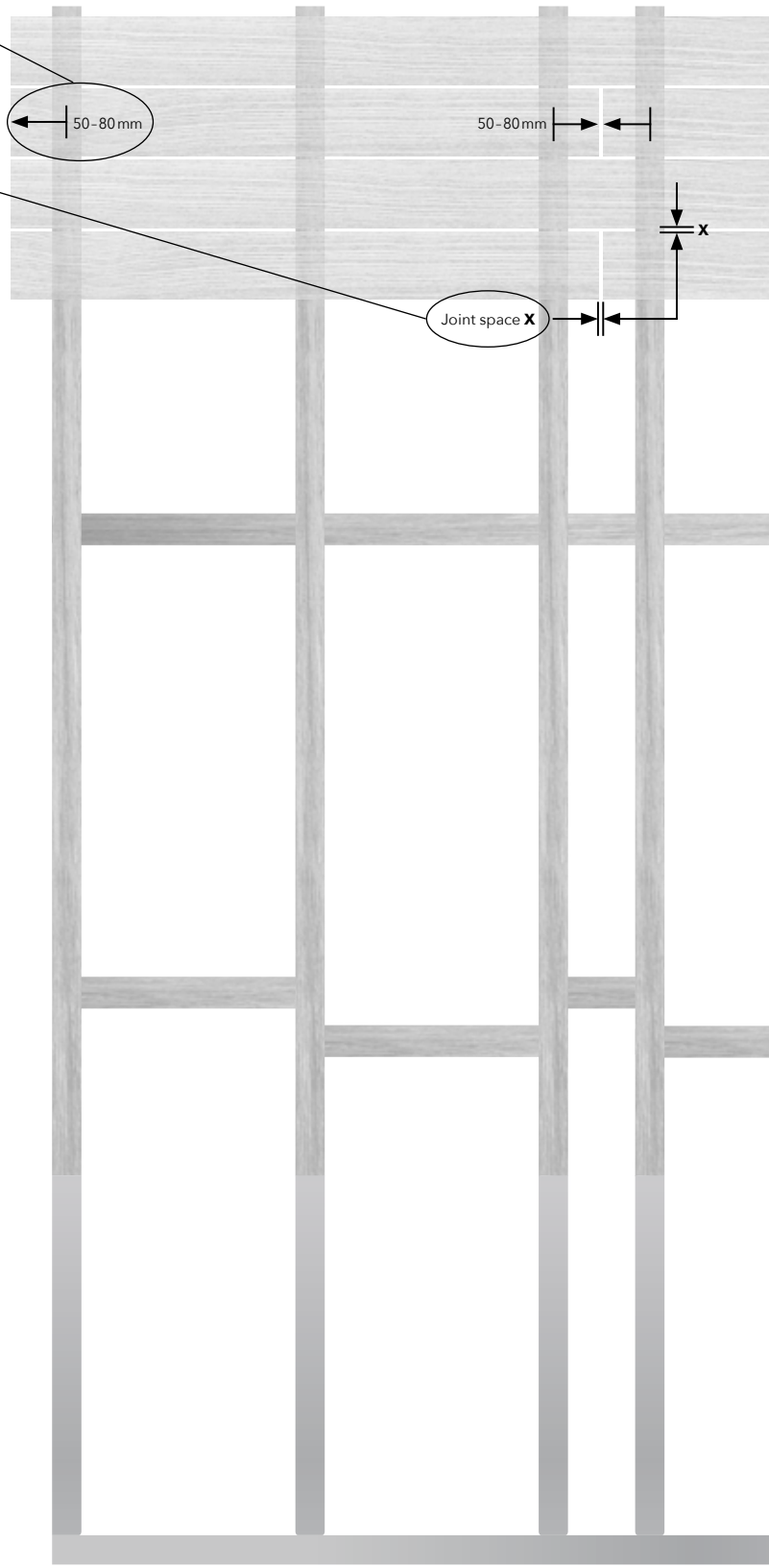
The screw distance from the board edge should range between 15–25 mm depending on the board width.

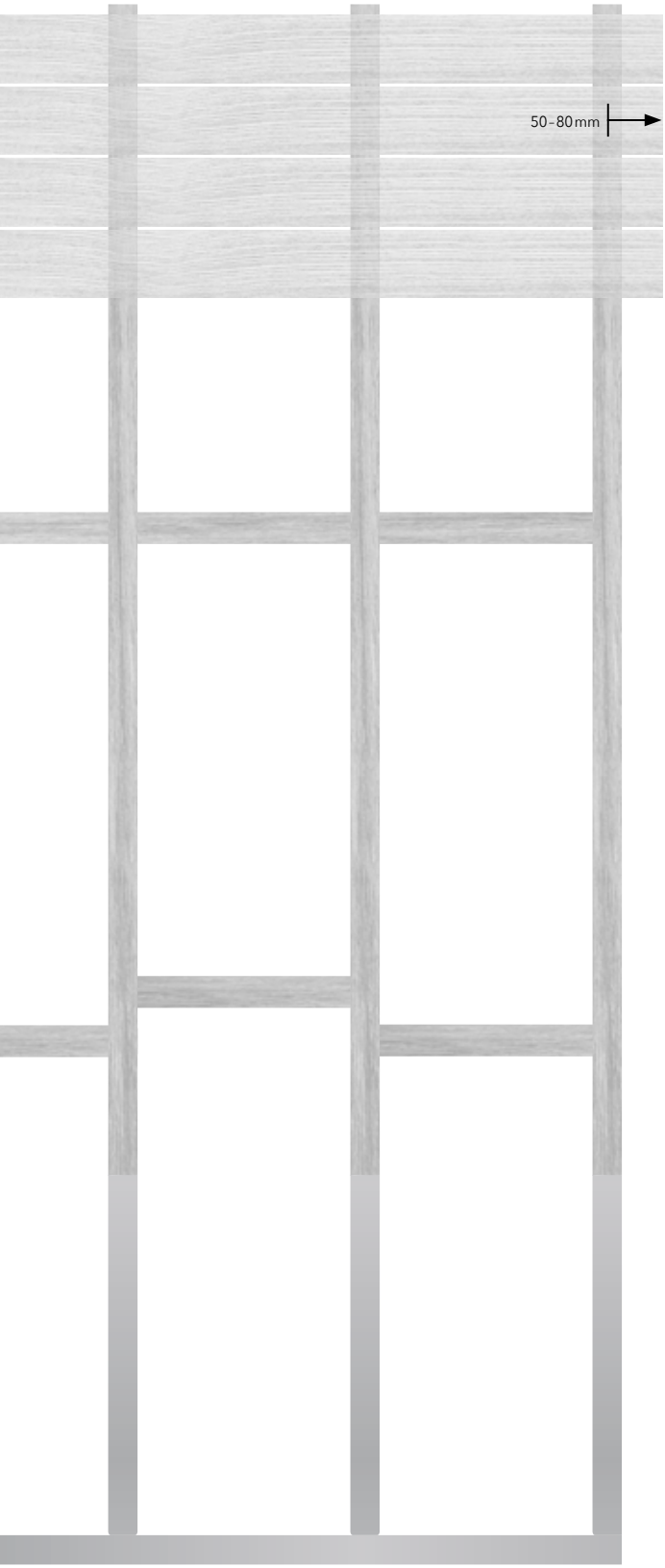


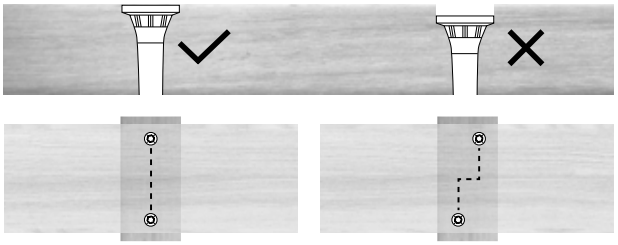
The board to be connected should be pre-drilled and countersunk using the appropriate tool. To prevent potential wood staining near the screw head, it's crucial to promptly remove the accumulated drilling dust after pre-drilling. Replace the bit after extended use to avoid iron abrasion. A tip to note refrain from using a magnetic bit holder, as it attracts metal particles and may result in staining (iron-tannic acid reaction) on the board. In case of existing staining, specialized cleaning agents can be employed for removal.



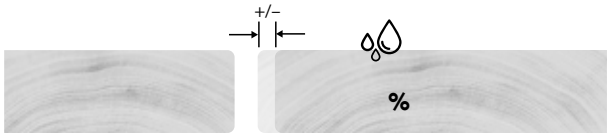
Maintaining a minimum clearance of 6 mm (ventilation level) is essential for enhancing structural integrity. This clearance effectively reduces the swelling and shrinking movements of the boards, minimizing the shearing effects on the fasteners. It is advisable to avoid direct surface contact between wood on wood.



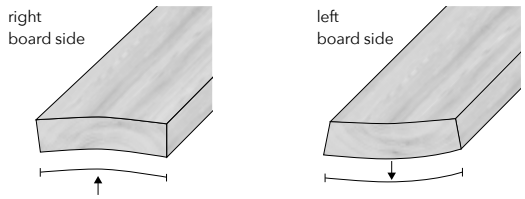




The screws should be countersunk flush with the surface. If the screw heads are recessed too deep, it may promote the accumulation of dirt and water, potentially causing staining around the screw head. The screws can be arranged in a straight line or offset.
When the board width ≥ 70 mm, we recommend two mounting screws. Short boards should be mounted to at least 3 substructures.



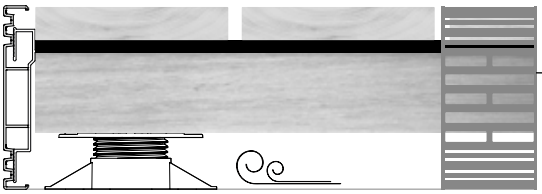
It is essential to check the wood moisture content percentage before installing the boards. Ensuring the correct moisture content of the decking is crucial for a trouble-free and long-lasting terrace. The appropriate wood moisture content should be specified by the wood supplier.



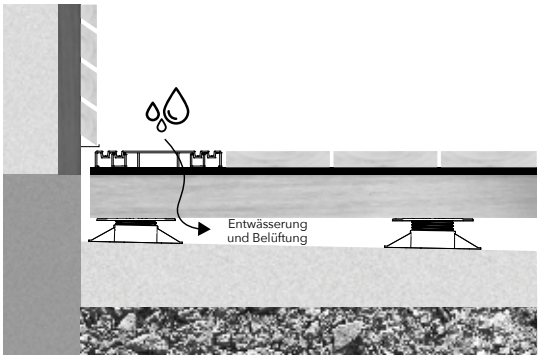
Various factors, including the production process, wood species, and profiling, determine whether boards should be laid with the right or left side facing upwards. It is crucial to always install the boards with the correct side facing upwards. Installing boards on different sides can lead to visual defects and compromise the fastening system's effectiveness over time.

Wood, being a naturally grown material, can result in warped and/or twisted decking boards. It is essential to identify and exclude any compromised boards during installation or, if feasible, utilize them as shorter boards.

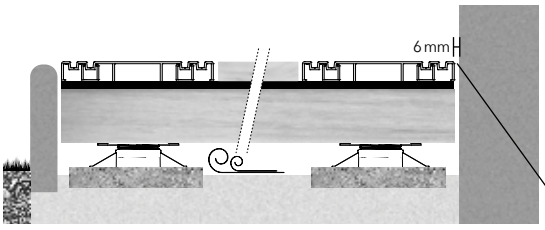
TIPS & TRICKS
VENTILATION AND DRAINAGE



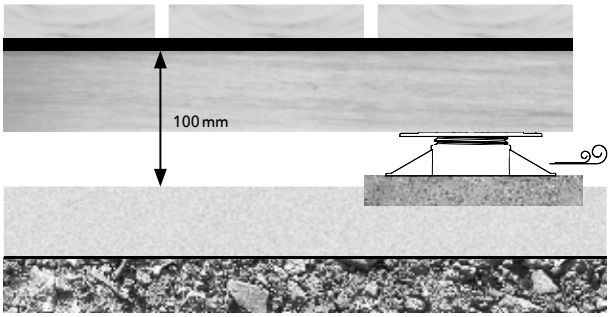
Ensure proper side ventilation for the entire structure, for instance, by incorporating the RELO V ventilation profile. The use of side fascia boards may hinder sufficient ventilation and could result in potential faults.



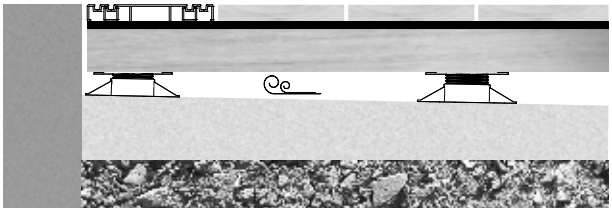
In proximity to structures like facades and sliding or folding doors, it is recommended to incorporate a ventilation drainage grate. This measure ensures proper ventilation, effective water drainage, and reduces the risk of dirt contamination from water spray.



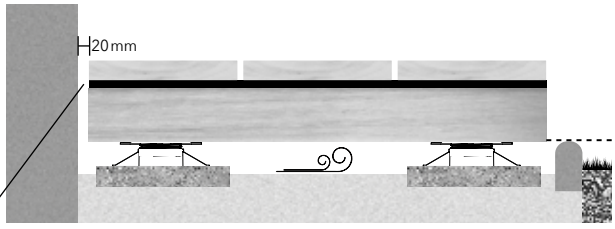
By using the RELO V ventilation grate, it is possible to decrease the distance from the adjacent structure from 20 mm to 6 mm.



Maintaining a structure height of 100 mm ensures optimal ventilation for the entire construction. Terraces with poor ventilation may experience problems such as boards cupping and potential partial failure of the fastening hardware.

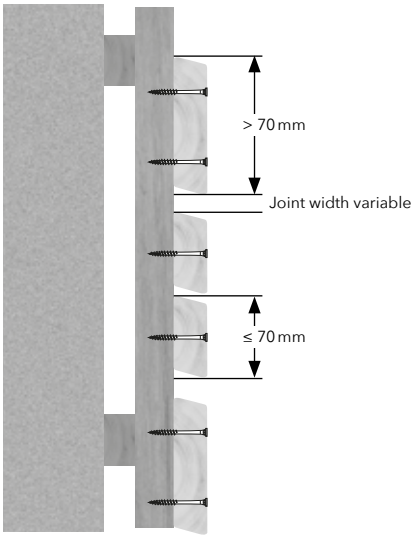


When extending the decking or perimeter edging with materials like stone, concrete, or ceramic tiles (at the same height level as the decking), it is crucial to employ ventilation profiles to ensure proper ventilation. In cases where using ventilation profiles is not feasible, a minimum gap of at least 20 mm is required.

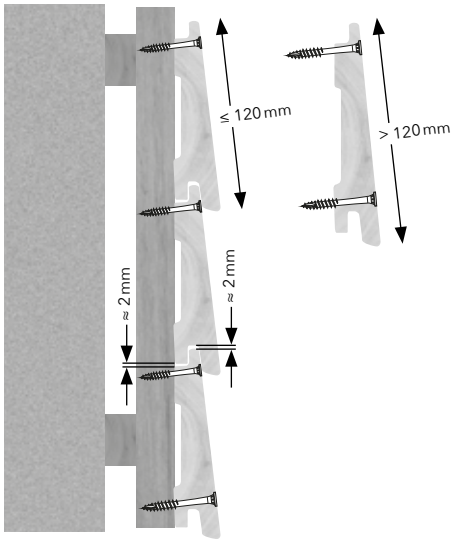


To facilitate ample ventilation for the entire construction, it is essential to maintain a minimum distance of 20 mm from adjacent objects along the perimeters. Additionally, it is advisable to position the decking substructure ideally above any adjacent landscape edging.

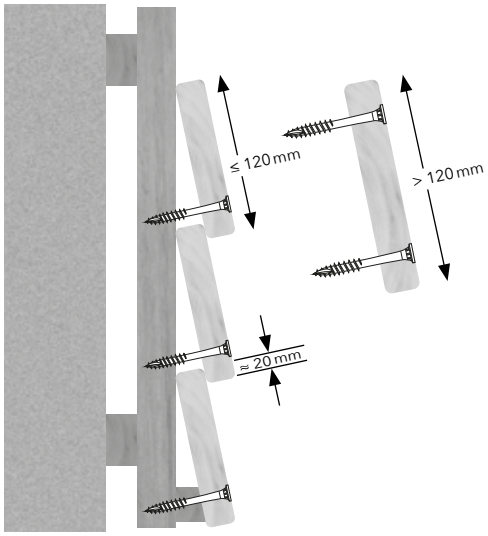
TIPS & TRICKS
FACADE CONSTRUCTION



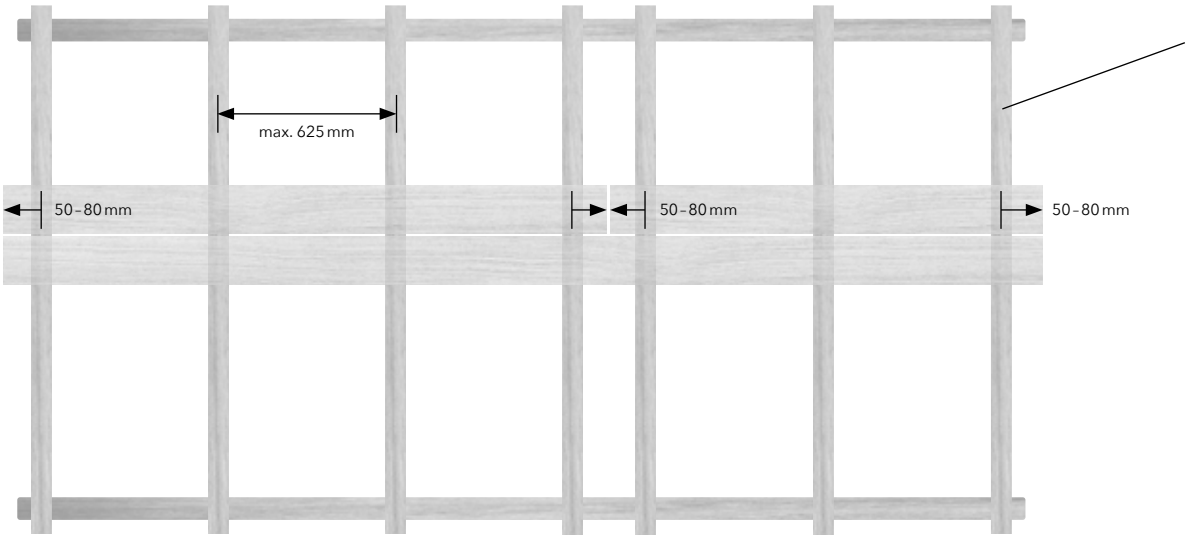
Rhombus profiles offer the flexibility of design with varying joint widths, allowing for options ranging from opaque to a more open and visually dynamic arrangement.

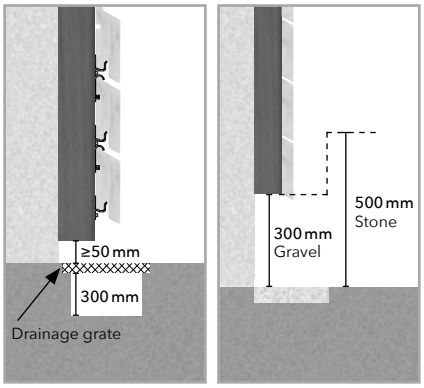


Closed tongue and groove siding profiles require a 2 mm gap between the groove and the tongue to accommodate potential swelling.

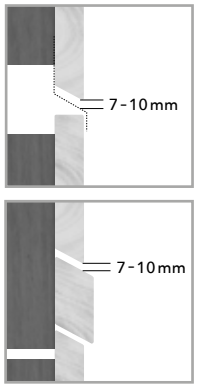


Overlap cladding with an approximate 20 mm overlap requires a screw-in depth in the substructure of at least 26 mm.

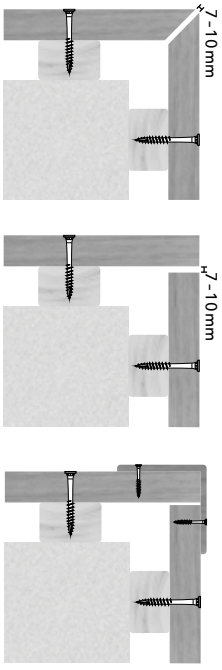




Water spray protection at the base

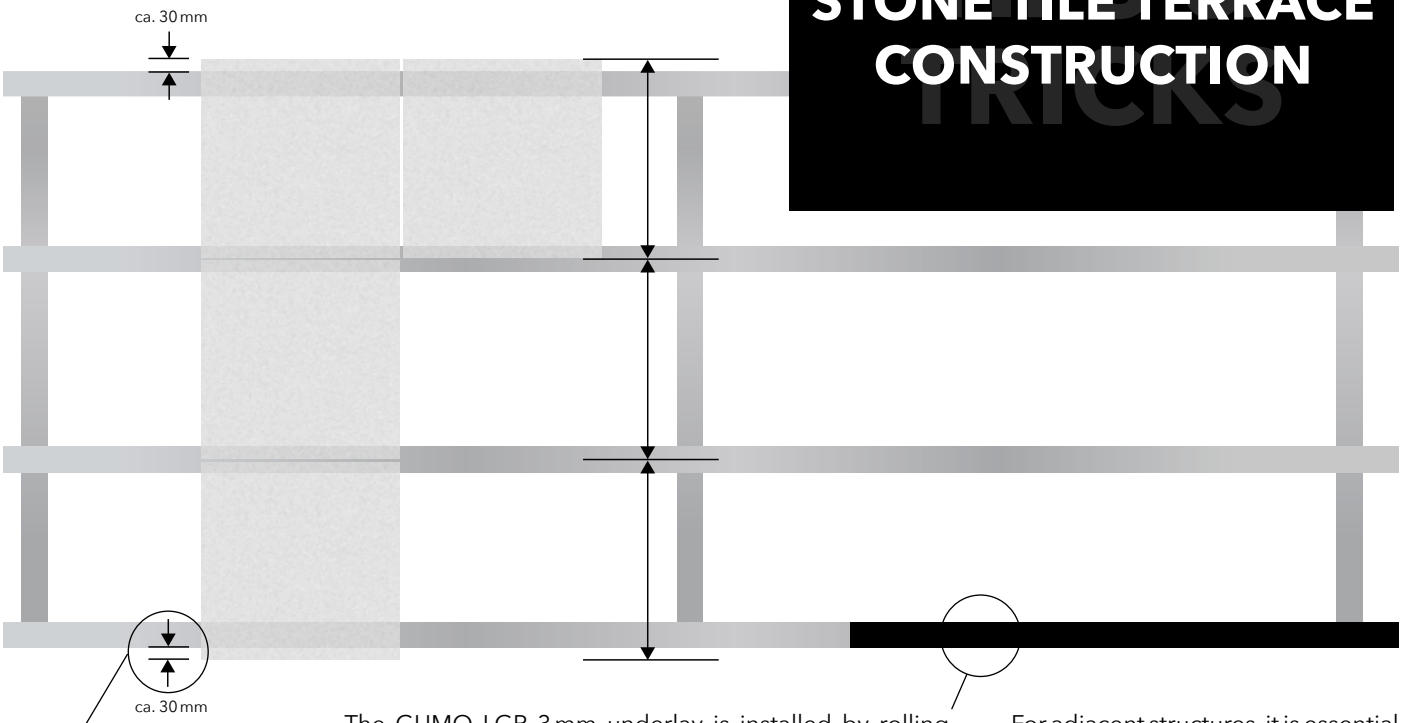


Vertical Joints



Corner Joints

STONE TILE TERRACE CONSTRUCTION



The outer rows of tiles should extend approximately 30 mm to allow for the attachment of RELO RA edge finishing trim profiles.

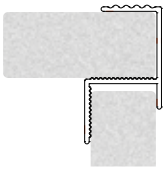
The GUMO LGR 3 mm underlay is installed by rolling along the substructure frame.

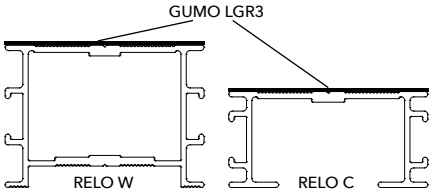
The underlay is anti-slip and provides a shock absorption effect between the aluminium substructure and stone tiles.

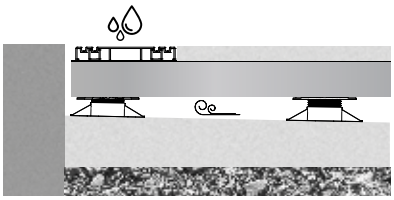
The rubber underlay should be bonded at intervals to the substructure with a suitable mounting adhesive.

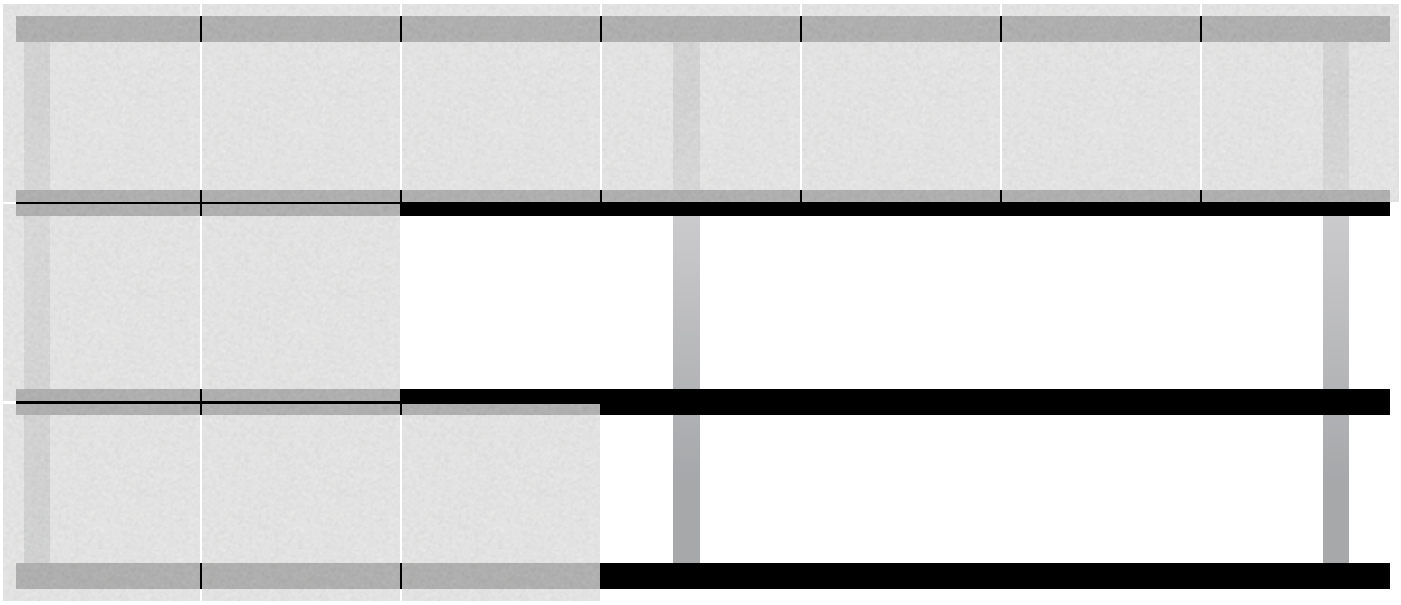
For adjacent structures, it is essential to use the RELO V drainage and ventilation grate.

The drainage and ventilation grate facilitates unimpeded water drainage while also minimizing staining caused by splashing water on adjacent structures.









The joints between the terrace stone tiles are arranged as needed, utilizing readily available tile joint spacers. The joint cross spacers can be divided or quartered, depending on the connection point.

NOTICES

PREMIUM FIXING SYSTEMS FOR YOU

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