



Installation Guide

OUTDURE COMPOSITE DECKING
INSTALLED ON A TIMBER SUB-FRAME

PLEASE READ PRIOR TO INSTALLATION
FAILURE TO INSTALL CORRECTLY WILL VOID WARRANTY

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INSTALLATION GUIDE FOR OUTDURE COMPOSITE DECKING ON A TIMBER SUB-FRAME

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Please refer to www.outdure.com for:

- COMPLEX / EXTRA DETAILS
- WARRANTY REGISTRATION
- MAINTENANCE SCHEDULE AND GUIDES

For specific products required for installing Outdure composite decking on timber sub-frame please refer to the Outdure product catalogue.

DISCLAIMER:

The use of this document is subject to the following terms and conditions: Prior to installing any composite decking, it is recommended that you check with local building codes for any special requirements or restrictions. Any construction or use of Outdure composite decking must be in accordance with all local zoning and/or building codes or regulatory requirements which take precedence over any details in this document but must be disclosed in the Warranty registration. The diagrams and instructions outlined in this guide are for illustration purposes only and are not meant or implied to replace a licensed professional. Users of this document shall rely solely on the specifiers and builders own professional judgment and skill in determining the appropriateness of using or referring to this document and to satisfy themselves as to the accuracy of the data it contains. The consumer assumes all risks and liability associated with the construction and use of this product. Note that when creating any structure over any waterproof membrane system it is the sole responsibility of the installer to ensure the membrane manufacturers warranty remains valid. Users acknowledge that Outdure is not responsible for the timber sub-frame in any capacity, this is also the sole responsibility of the installer. Outdure endeavor to supply materials as per the defined dimensions but acceptable tolerances of 1-2mm difference can occasionally happen. This document is the sole property of Outdure and must not be copied reproduced retained or disclosed to any unauthorized party wholly or in part without permission of Outdure. If in doubt about any details please contact Outdure for clarification www.outdure.com/contact

IMPORTANT /// PRE-INSTALLATION INFORMATION FOR OUTDURE COMPOSITE DECKING ON A TIMBER SUB-FRAME

Safety and Tools /// When dealing with any type of construction project, it is necessary to wear appropriate safety equipment to avoid any risk of injuries. Outdure recommends but is not limited to the following safety equipment when handling, cutting and installing Outdure composite decking: gloves, a respiratory protection, long sleeves, pants, and safety glasses. Standard woodworking tools may be used, 200mm dia circular saw blades should have approx 40 teeth, 254mm dia drop saw blades should have approx 70 teeth. Adjust drill clutch to ensure screws are only ever tightened lightly.

Storage /// Ensure Outdure composite decking is stored in a dry, ventilated area and stacked at a maximum of four pallets on top of each other. Each pallet contains a maximum of x140 boards.

Construction /// Outdure composite decking is not intended for use as columns, support posts, beams, joist stringers or other primary load-bearing members. Outdure composite decking must be supported by a code-compliant substructure. While Outdure composite decking products are great for retrofits, Outdure's products cannot be installed on existing decking boards or directly installed onto a substrate surface. It is important to remove arris on all board ends pre-installation.

Table of Values for Acceptable Deck Heights

<u>Deck Height:</u>	<u>0 - 100mm</u>	<u>100 - 400mm</u>	<u>400mm+</u>
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Capped Composite:

• On a Timber Frame	Outside Warranty	Warranty	Warranty
• On QwickBuild	Warranty**	Warranty	Warranty

Uncapped Composite:

• On a Timber Frame	Outside Warranty	Outside Warranty	Warranty
• On QwickBuild	Warranty*	Warranty	Warranty
• On a Steel Frame	Warranty*	Warranty	Warranty

* A compliant aluminium/steel frame is required with a minimum 71mm clearance under joists.

** QwickGrates mandatory as per Installation Guide (100mm clearance preferable)

'Deck Height' = The height from the top of the decking board to the top of the ground/concrete/membrane.

Note: Composite decking on a timber frame over natural ground must have sufficient clearance for bearers and joist out of ground. NZ compliance requires timber structures under 400mm from the ground to have a DPC layer between the post and bearer to stop capillary action of water from the ground, to the post, bearer and joist.

Ventilation /// Outdure advise the integration of QwickGrate ventilation grates for critical airflow for decks less than 400mm from the ground (or membrane). Outdure composite decking products are very resistant to moisture, but prolonged exposure to moisture will affect the decking boards and promote mould growth on your deck. The decking must be installed so there is adequate and unobstructed airflow under the decking to prevent excessive water absorption. Swelling may occur if there is excessive water absorption to an area that does not have the protection of the capped layer, there could be some swelling that occurs.

For capped composite decking boards a minimum of 100 mm of continuous net free area under the decking surface is required for adequate ventilation on all decking, this allows air to circulate between adjacent members to promote drainage and drying. In the case that installation is below 100 mm, it is recommended to look up the maximum rainfall of the area to determine what height would need to be built to ensure no flooding of the deck occurs. A slope of 1-2 degrees must be used on the frame towards the direction of the drainage to ensure that there is no free-standing water. If the deck is built below 100 mm without a slope, the areas without the protection of the cap layer could swell on the ends. Please note: for uncapped composite decking boards the same applies but a minimum of 400mm is required.

Fasteners /// Outdure supplies all necessary fasteners for all scenarios. Please refer to 'Outdure Product Catalogues'

Pre-drill oversized holes /// Pre-drill 7mm diameter holes for screws penetrating decking or trim board. Use Outdure flat-head screws, not countersunk screws.

Span between joists /// Maximum span between joists = 400mm centres. Boards must span at least three joists. Ensure ground under deck has adequate drainage. For non-residential applications please contact Outdure. Make sure that all joists are level and centered.

Deck Foundation, Blocking and Bracing /// Composite decking requires a very stable and well-braced structure. The concealed fastening system eliminates the requirement of nails and/or screws to secure the boards to the joist, hence it does not provide bracing element to the deck. Therefore joist hangers and a diagonal bracing strip must be used to avoid substructure movement. Perimeter joists must be blocked sufficiently to avoid the outside joist from rolling. If there is insufficient structural bracing and blocking deck frame movement will occur over time.

Outdure recommend the use of QwickBuild as the framing solution. In instances when QwickBuild is not used it is the responsibility of the installer to ensure the alternative sub-frame is designed and built to standards.

IMPORTANT /// PRE-INSTALLATION INFORMATION FOR OUTDURE COMPOSITE DECKING ON A TIMBER SUB-FRAME

Static /// Electrostatic Discharge “ESD” is a natural phenomenon that can occur in particular environmental conditions to many products, including fabrics, carpets, rubbers, plastics, metals and composite decking boards. It is important to note that ESD in composite boards is generally a short-term phenomenon that decreases as the boards' age. The accredited testing and certification body, OTI Institute of Ecology, Technology and Innovation GmbH in Vienna (Austria), completed comparative tests of Outdure composite decking boards with three other major composite brands on the market. The test results for Outdure composite decking products proved favourable with less static than the other major brands, and are classified as “anti-static”. Methods to dissipate static are to use mats at doorways/entrances on the area of static, rubber inserts (supplied by Outdure) in between decking boards in the static prone areas, aluminium grates/strip or grounding the frame.

Heat and Fire /// Excessive heat on the surface of Outdure composite decking products from external sources such as but not limited to fire or reflection of sunlight from energy efficient window products. Low-emissivity (Low-E) glass can potentially harm Outdure composite decking products. Low-E glass is designed to prevent passive heat gain within a structure and can cause unusual heat build-up on exterior surfaces. This extreme elevation of surface temperatures, which exceeds that of normal exposure, can possibly cause Outdure composite decking products to melt, sag, warp, discolor, increase expansion/contraction, and accelerate weathering.

Acclimate /// Let the boards acclimatize before cutting and laying. Boards stacked in a pack can be a very different temperature than the ambient air temperature. Open the pack and lay boards out to allow them to settle to the ambient air temperature.

Expansion and Contraction /// Composite boards experience expansion and contraction with changes in temperature. Expansion and contraction is most significant where extreme temperature changes occur. Outdure strongly recommends the use of 2.8 m length boards. To spread the expansion and contraction evenly from end to end, each board should be pinned by pre drilling and skewing a screw (ALL.SC.WD-C45) through the groove of the composite into the timber joist on the two center most joists on the deck board. A minimum 12mm gap is required* from another structure such as a house, where one end of a board meets a wall or structure. The expansion may be hidden in the 12mm gap (pin the board at the opposite end to achieve this). * *New Zealand requirement*

Fastening the deck planks according to the gapping requirements noted in the following table accommodates for this movement. For any further information, please contact Outdure.

Expansion and Contraction Table of Values for:

1. Europe, Russia, Northern Asia

<i>Installation Temperature (°C)</i>	<i>Gap Required (mm) For 2.8m lengths</i>	<i>Gap Required (mm) For 4.8m lengths</i>
-10	6.7	11.7
-5	6.2	10.7
0	5.6	9.8
5	5.0	8.8
10	4.5	7.8
15	3.9	6.8
20	3.4	5.9
25	2.8	4.9
30	2.2	3.9
35	1.7	2.9
40	1.1	2.0

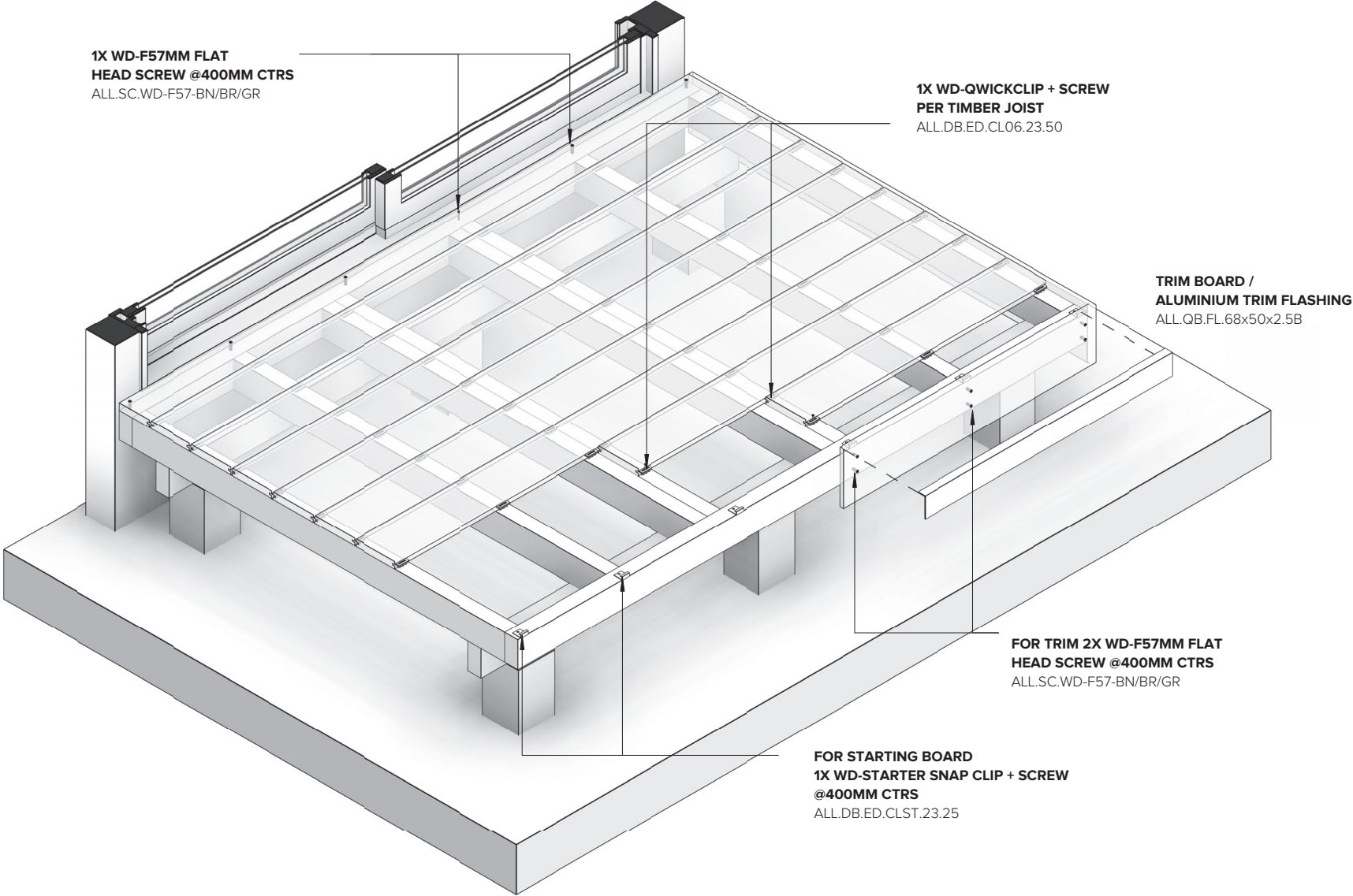
2. North America, Canada, Australia, NZ and Asia

<i>Installation Temperature (°C)</i>	<i>Gap Required (mm) For 2.8m lengths</i>	<i>Gap Required (mm) For 4.8m lengths</i>
0	3.9	6.8
5	3.4	5.9
10	2.8	4.9
15	2.2	3.9
20	1.7	2.9
25	1.1	2.0
30	0.6	1.0

3. Africa, Middle East, GCC, South America, and Latin America

<i>Installation Temperature (°C)</i>	<i>Gap Required (mm) For 2.8m lengths</i>	<i>Gap Required (mm) For 4.8m lengths</i>
10	4.5	7.8
15	3.9	6.8
20	3.4	5.9
25	2.8	4.9
30	2.2	3.9
35	1.7	2.9
40	1.1	2.0
45	0.6	1.0

OVERVIEW OF OUTDURE COMPOSITE DECKING ON A TIMBER SUB-FRAME ///

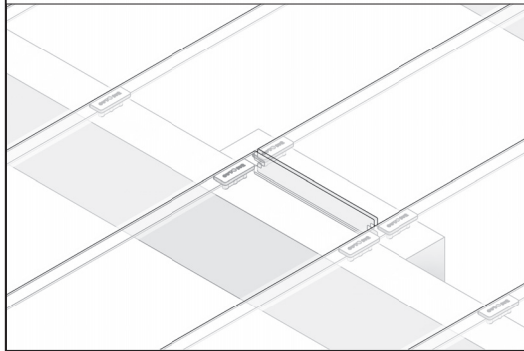


BOARD LAYOUT OPTIONS & CONNECTION DETAILS ///



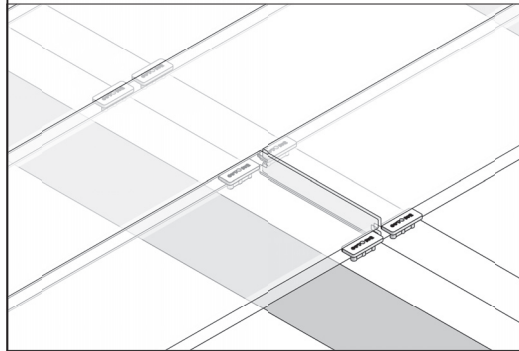
RANDOM (RECOMMENDED)

FAST INSTALL - LESS WASTE - EASY INSTALLATION

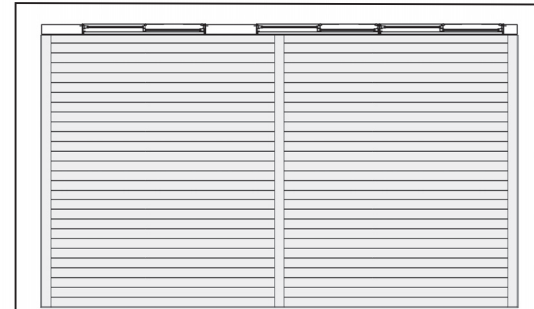
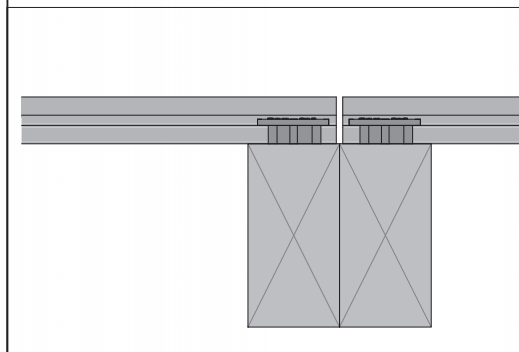


STAGGERED

FAST INSTALL - MORE WASTE - EASY INSTALLATION

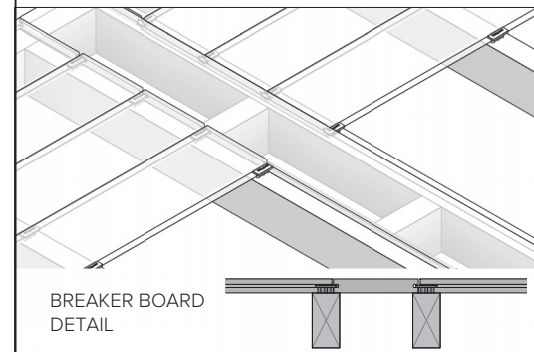
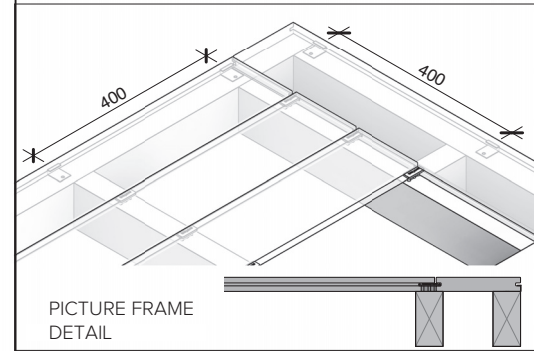


AS REQUIRED FOR EVERY BOARD JOIN

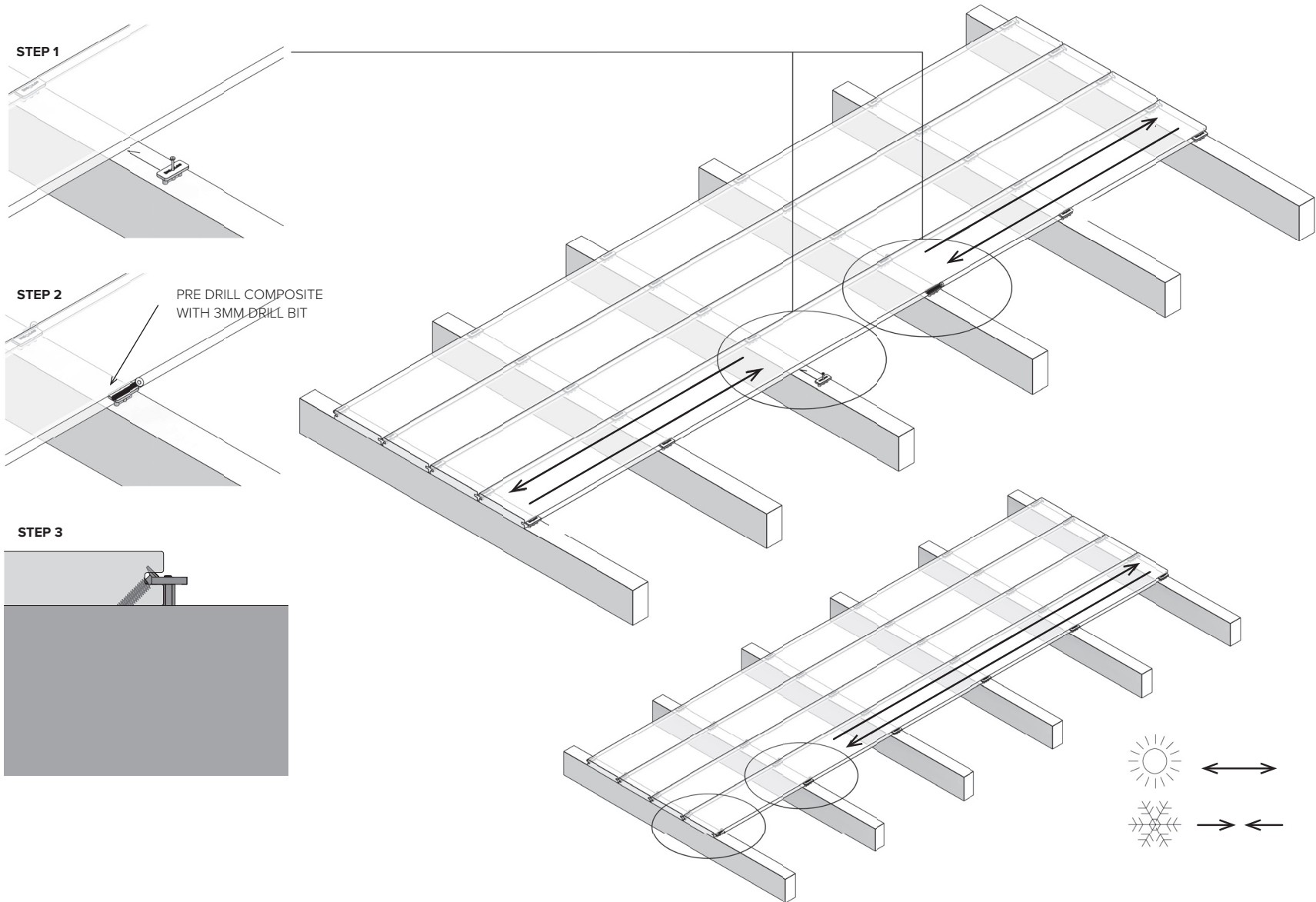


BREAKER BOARD & PICTURE FRAME

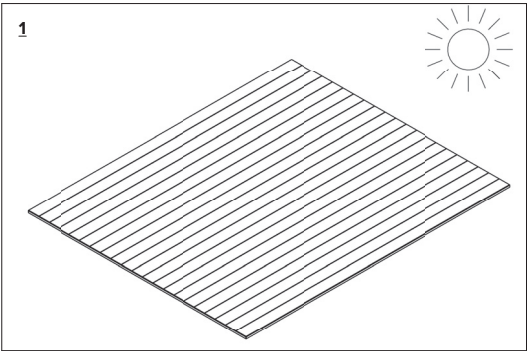
MEDIUM INSTALL - MORE WASTE - MOST COMPLEX



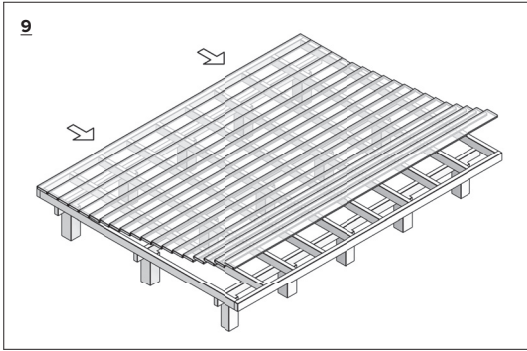
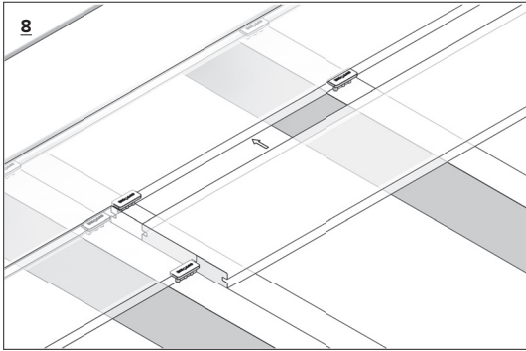
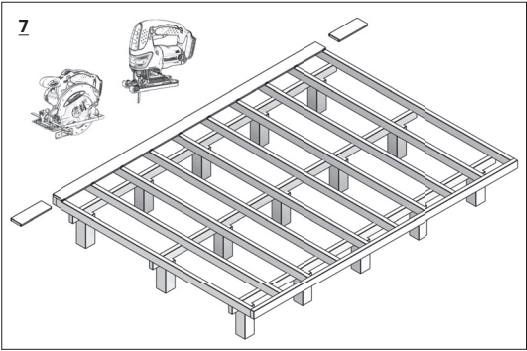
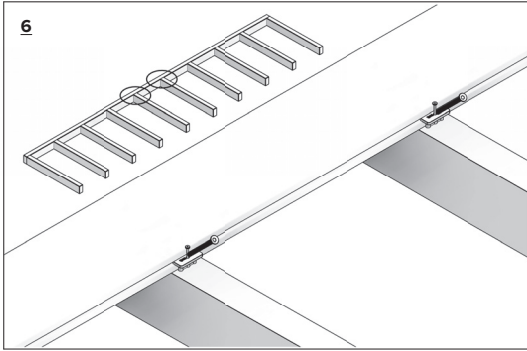
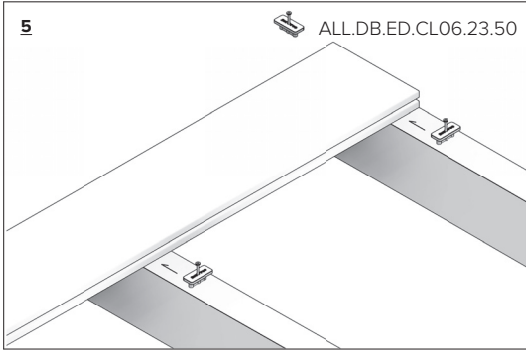
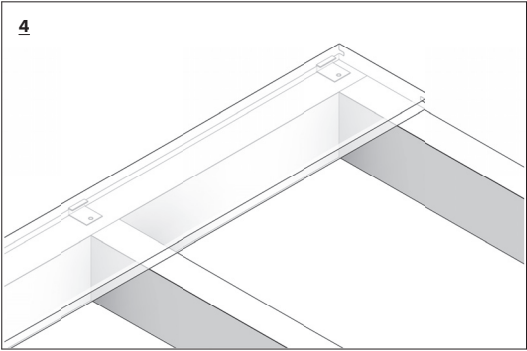
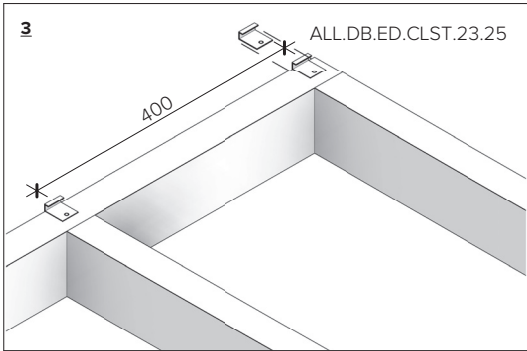
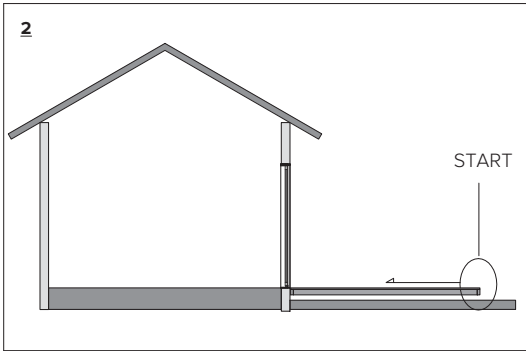
INFORMATION REGARDING EXPANSION & CONTRACTION ///



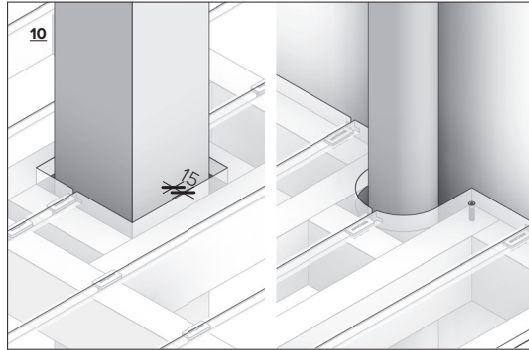
STANDARD DETAILS STEP BY STEP INSTALLATION /// 01 OF 02



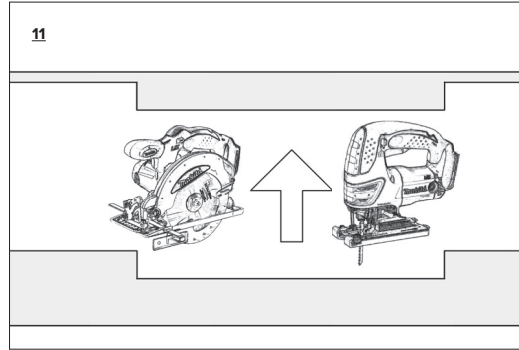
ACCLIMATIZE 30 MINUTES MINIMUM



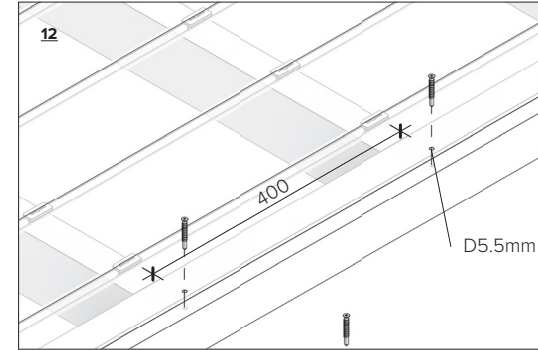
STANDARD DETAILS STEP BY STEP INSTALLATION /// 02 OF 02



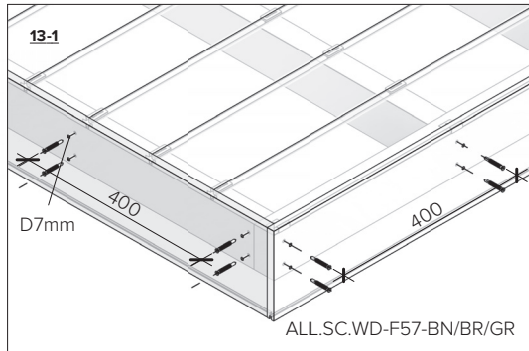
10
DOWNSPIPE & POST CUT OUT



11



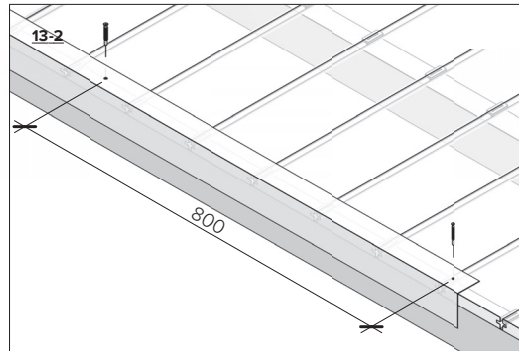
12



13-1

TRIM BOARD 180x15mm

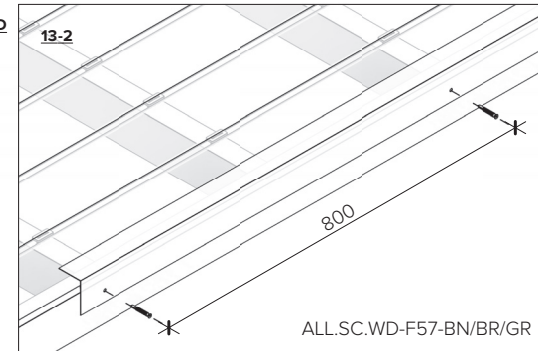
OR



13-2

TRIM FLASHING PERPENDICULAR TO BOARD

AND



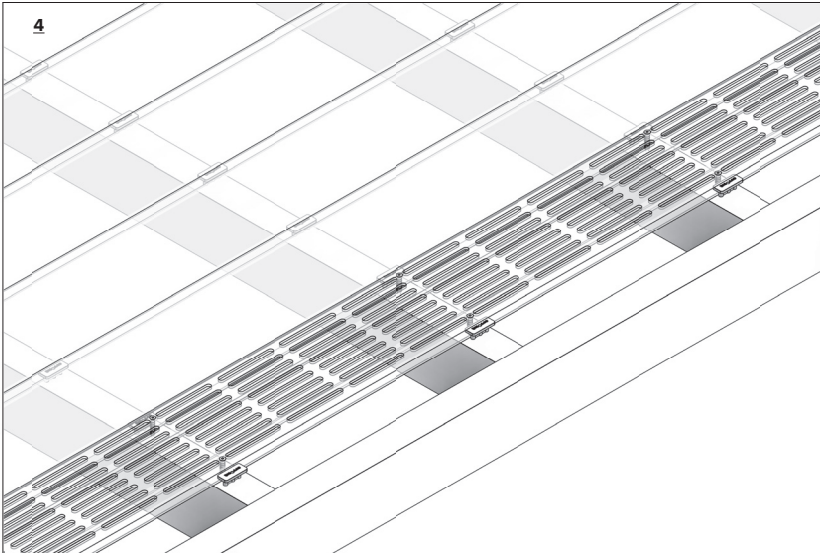
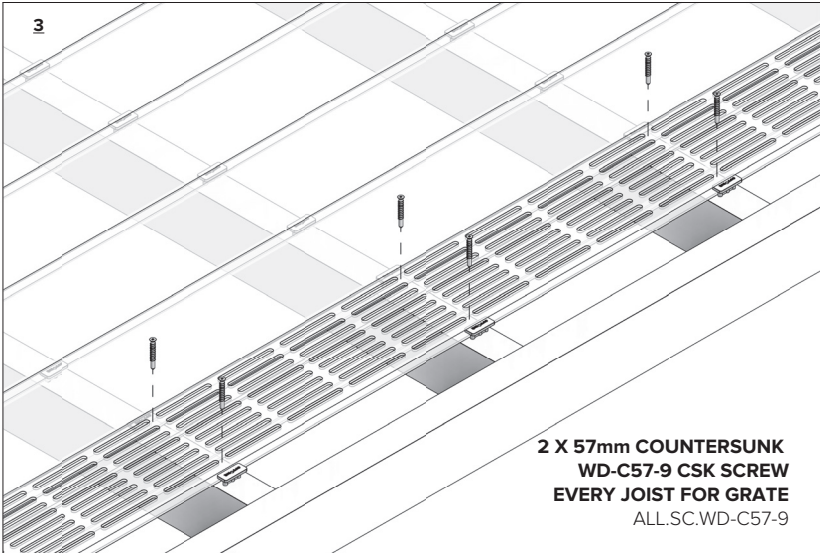
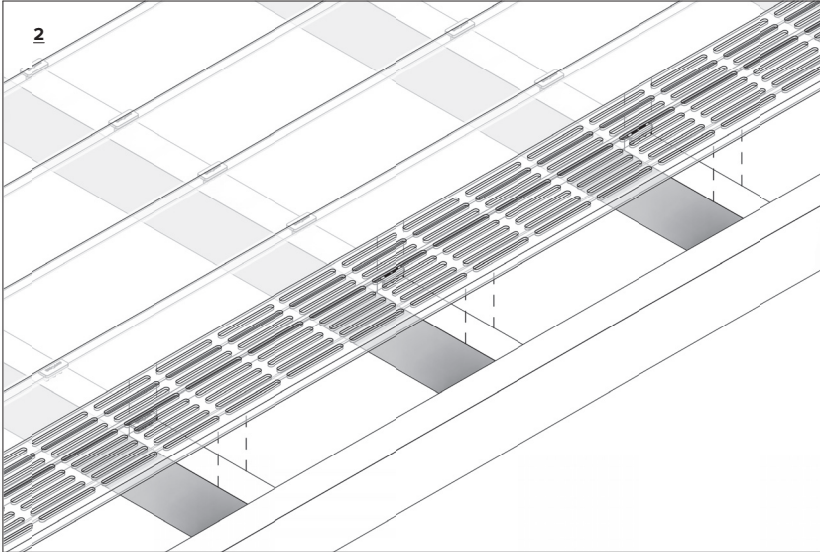
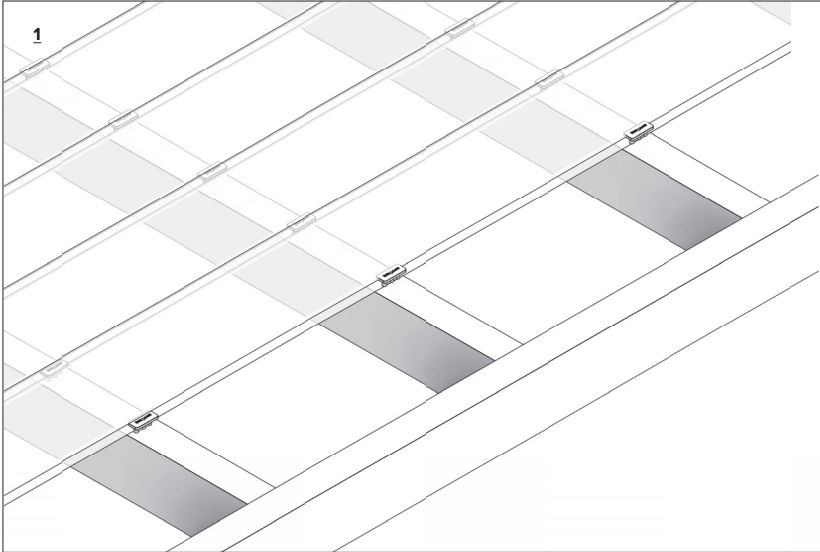
13-2

TRIM FLASHING PARALLEL TO BOARD

ALL.SC.WD-F57-BN/BR/GR

STANDARD QWICKGRATE INSTALLATION DETAILS ///

QWICKBUILD QWICKGRATE 138x23x2800 SILVER ALL.QB.QG.138X23X2.8.S
QWICKBUILD QWICKGRATE 138x23x2800 BLACK ALL.QB.QG.138X23X2.8.B



STANDARD STAIR DETAILS ///

