

WPC OUTDOOR DECK INSTALLATION GUIDE

Thanks for choosing Sentai WPC deck for your outdoor living experience

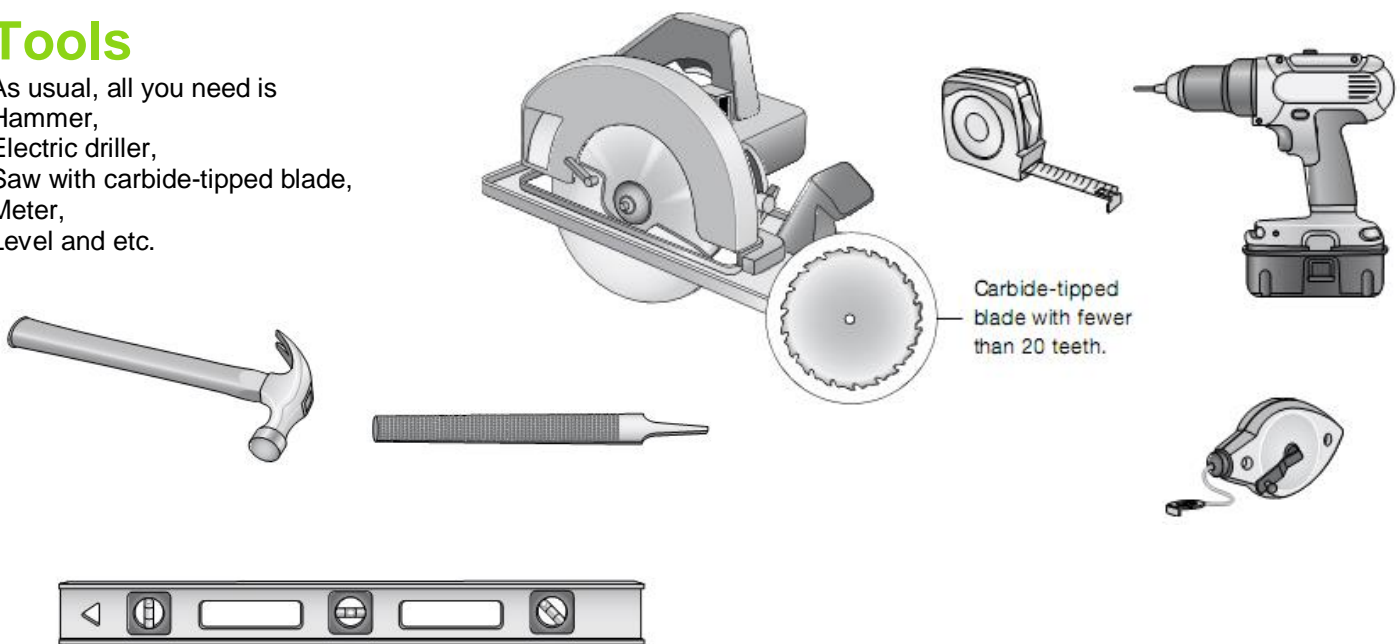
(Please keep this guide near at hand and make sure to read all before starting installation, for the following installation and maintenance instructions will guarantee a long life for your decking)

Safety

When working on any construction project, it is necessary to wear protective clothing and safety equipments to avoid any risk of injuries. Generally, it is recommended to wear safety glasses, gloves, dust mask and long sleeves, esp. when cutting in confined spaces.

Tools

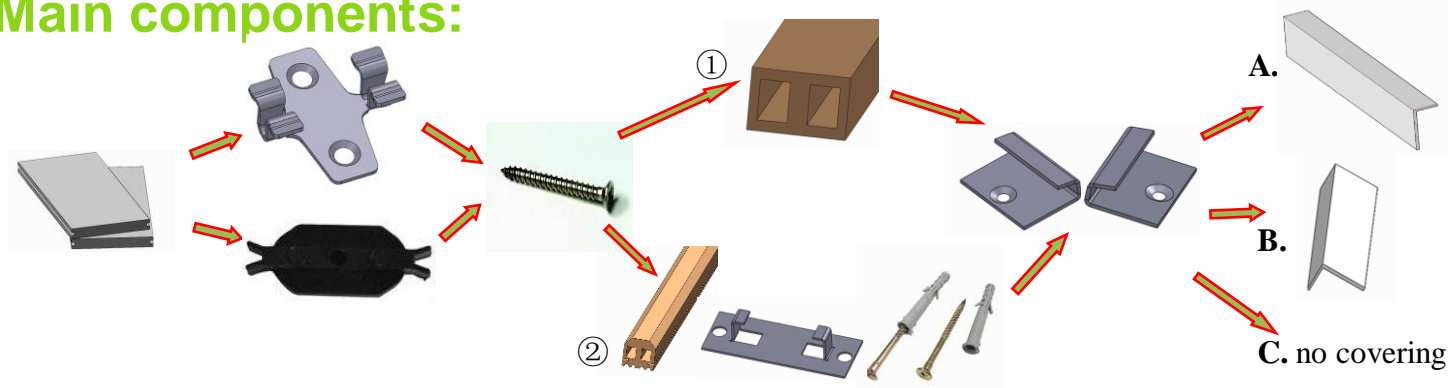
As usual, all you need is
Hammer,
Electric driller,
Saw with carbide-tipped blade,
Meter,
Level and etc.



Storage

Please Store WPC decking boards in their original packaging, preferably in a **well-ventilated** roofed place. If installation does not occur immediately, the decks should be put on a flat surface at all times. Never ever should it be put on a surface that isn't flat.

Main components:



Deck + clips (metal or plastic type) + screws + Support joist (with or without joist fitter types) + starting clip + side cover (WPC board or Aluminium material or without covering)

Important tips:

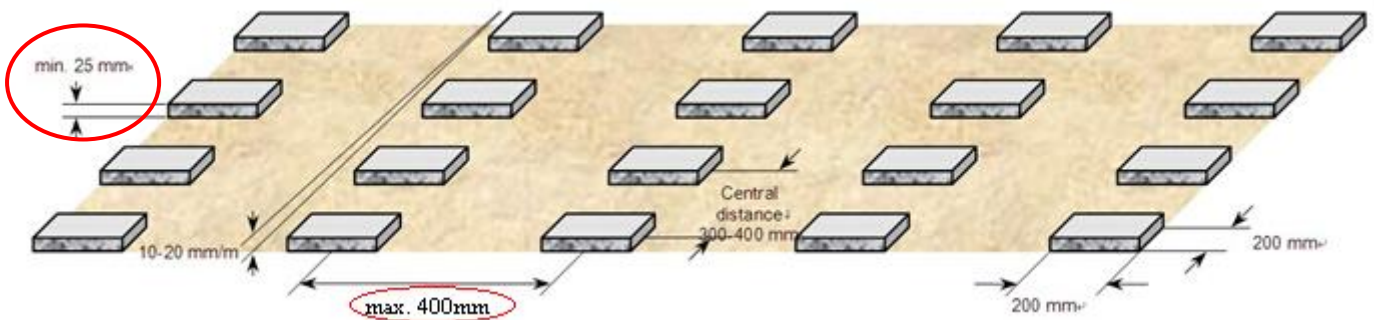
1. Slight color and surface differences may occur due to slight differences in raw materials or surface treatment. This ensures your decking will have a natural appearance
2. It is advised to place the terrace sections in the required installation site for 72 hours before installation to acclimatize them. Don't install the terrace sections if the temperature is below 0°C
3. The method of installation is very important to the product; wrong installation may cause less durability or some damages of the products. Check the material before installation. Report all damages and defects to the vendor before installation. Start of installation means the appearance and standards have been approved by the client. Trust a professional installer with the installation. It is suggested that more than two people working together during installing the terrace. WPC decking should not be used for columns, beams, joists, support posts or other loading bearing segments. Failure to follow instructions will void the warranty.

The substructure

Before installing any composite decking system, it is recommended to check the local building codes for any special requirements or restrictions. The instructions outlined in this guide are for illustration only and are not meant or implied to replace a licensed professional. Any construction or use of Sentai WPC deck must be in accordance with local building codes.

Generally, there are two foundations allowed for installation,

- A. Complete flat or slightly sloped concrete ground;
- B. Concrete point laid on the ground (see below picture).



Attention:

- It is recommended to use original accessories and parts for deck. There must be a space of at least **25mm** between the ground and the substructure in case of insufficient ventilation to invalidate any guarantee. Thus Direct Contact between the terrace section and the grass or ground must be avoided at all costs.
- It is advised to install the terrace sections on a structure of support joists. Normally, the joists should be fixed by expansion screws to the concrete at a distance of **max. 400mm** (see above picture). While if the terrace is very big, you can also lay the support joists floating on the base to allow for movement without fixing.

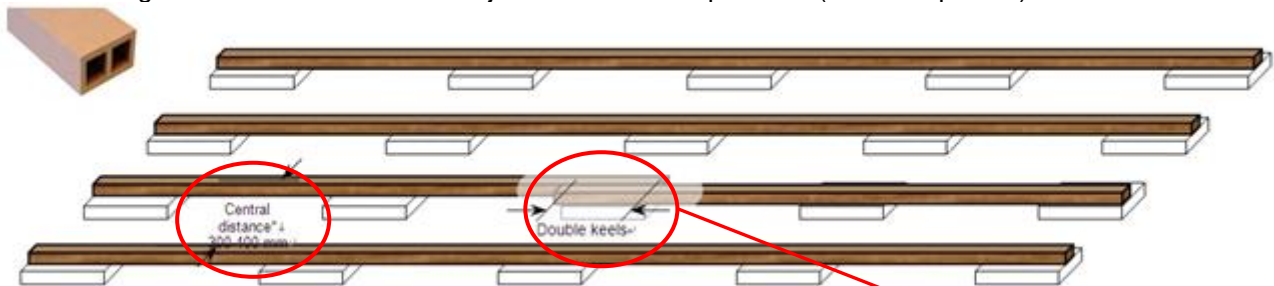
Installation

1. Foundation

Make sure the ground level is flat and smooth. Before you start, ensure there is a level base and remove all weeds. To prevent weeds growing, we advise laying root-stop fabric under the structure. Make sure the ground base is clean, dry, stable, solid and smooth – a slope of 2% will provide the correct water drainage.

2. Lay the joists.

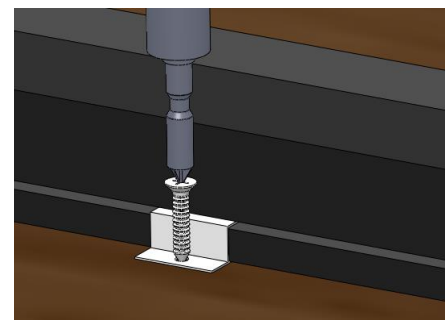
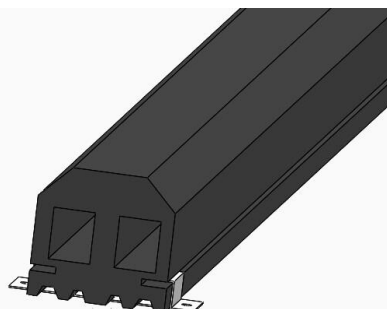
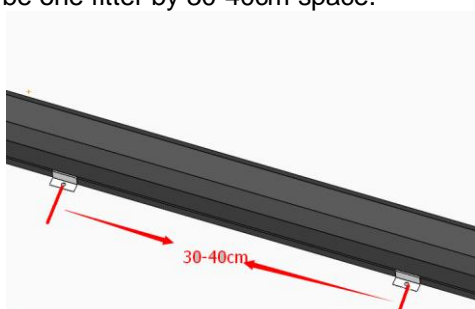
Please keep the distance of two joists at maximum 400mm between centers (as usual, it is 300mm). Make sure that there are double joists (double keels) wherever two decks meet. Never allow two deck boards ends share one joist, otherwise, the deck board might be shrink and fall off from joist or have other problems(see blew picture).



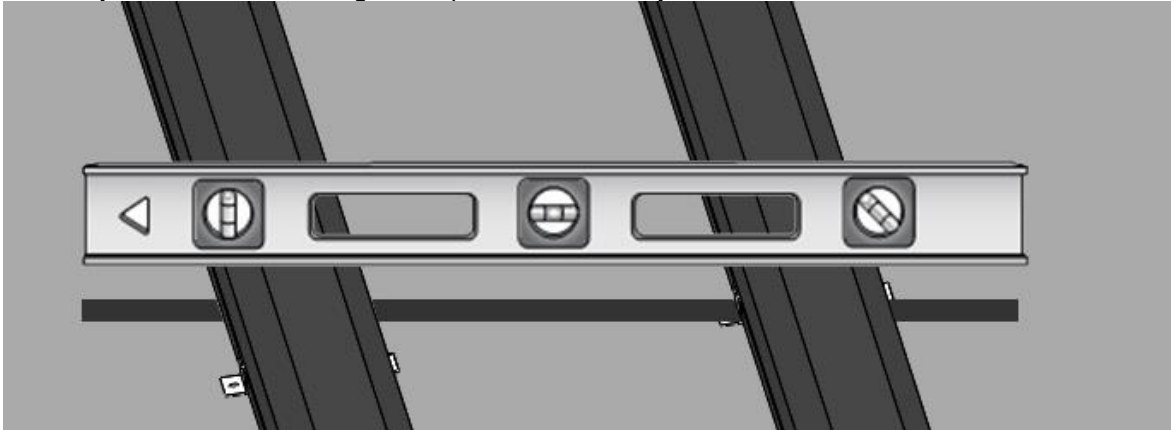
2A. Just put the joist on the concrete stand if the terrace is very big

OR

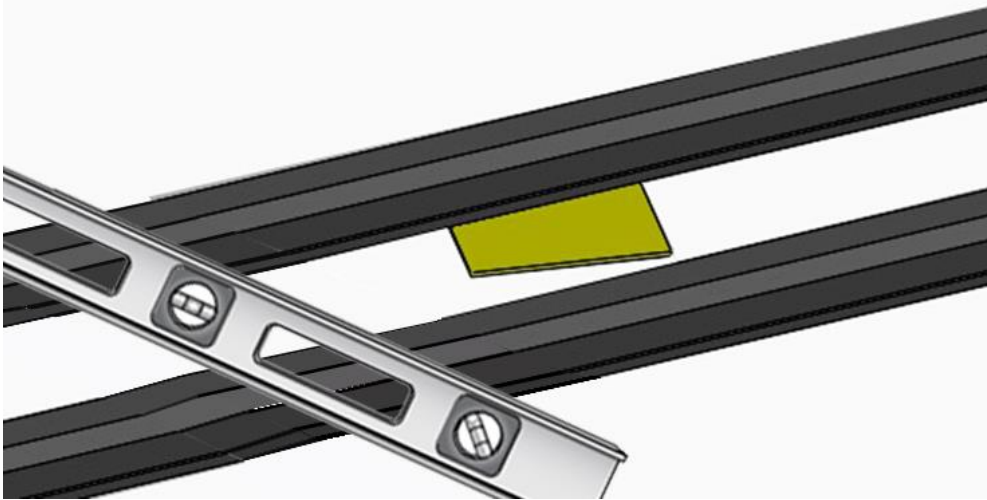
2B. Fix by joist fitter with expansion screws (as below). As usual 2-3pcs fitters needed for 1m joist, which means there will be one fitter by 30-40cm space.



After all joists are fixed to the ground, please check the joists level

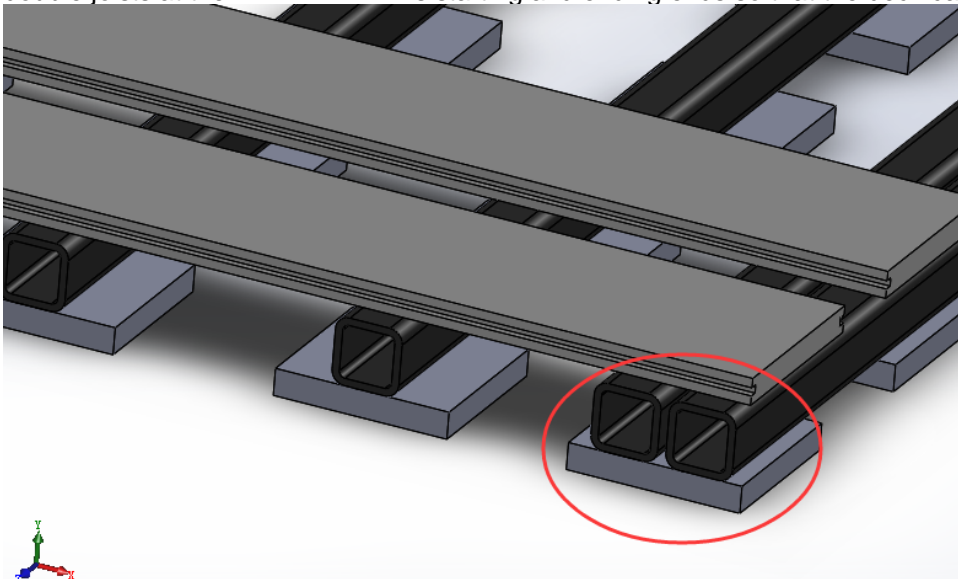


If the joists level is not smooth, please adjust the level by filling the gap between the joist and ground with slices.



Attention: it is required that the deck surface is mounted flat and no water can collect on the surface or in the chambers. If water collects in the chambers for a long period, the board may start cupping and waving because of the moisture expansion.

To prevent the deck from bending, esp. for the long deck used at commercial application, it is also recommended to lay double joists at the terrace section's starting and ending ends so that the deck can be fixed firmly.

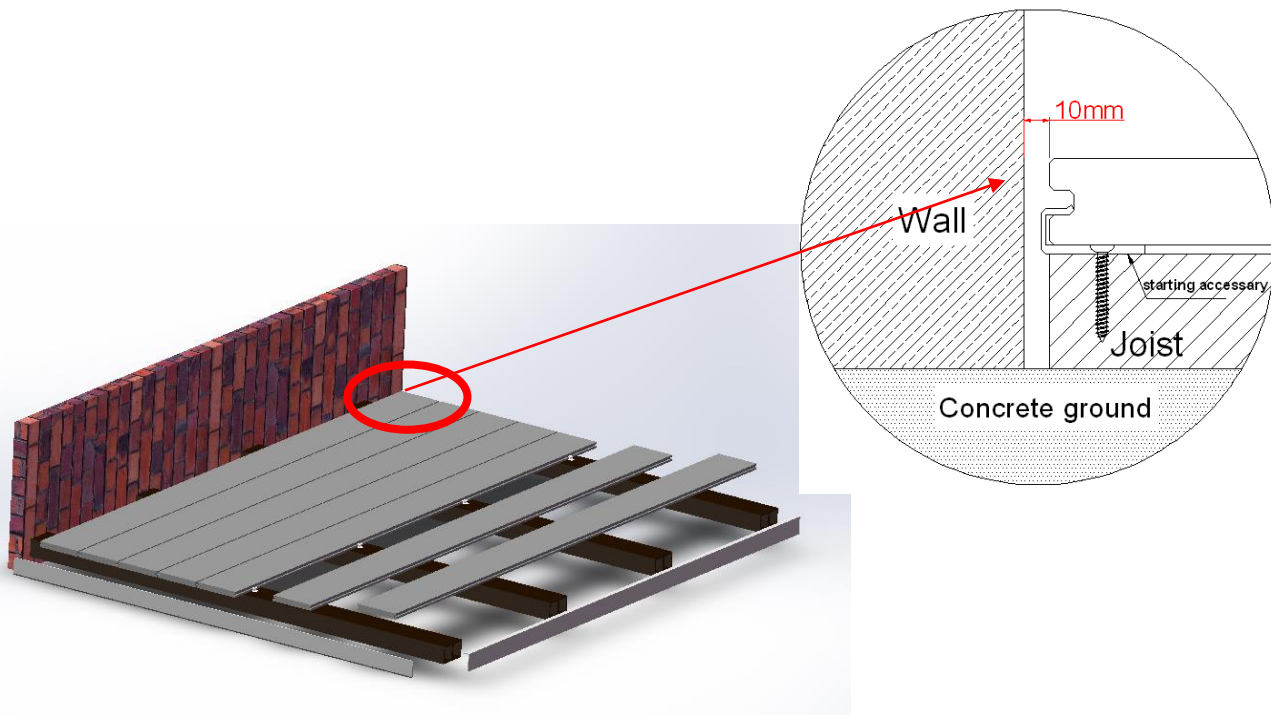


3. Install the deck.

3A. With starting clips

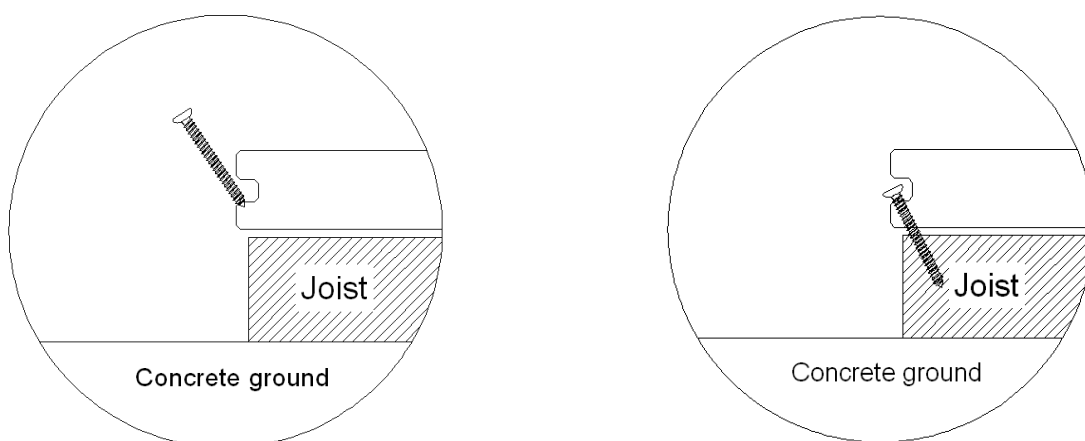
Pre-drill the hole on the joist and then fix the starting clips into the joist.

Keep the board end and the joist at least 10mm from the walls or other obstacles to allow for expansion of the WPC products and also for ensuring good drainage and ventilation.



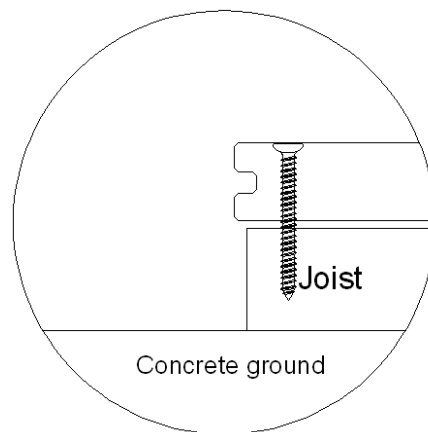
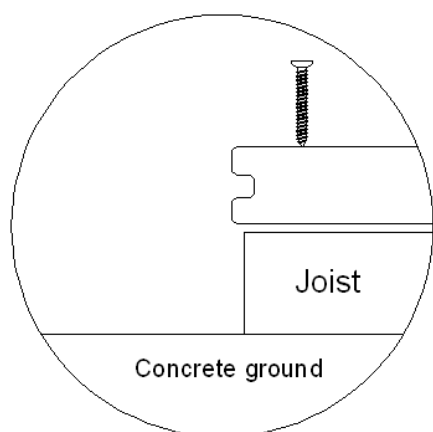
3B. Without starting clips, but screw from the side

First, from the side of the deck, predrill a hole for the screw through the the groove and into the joist;
Second, fix the screw into the hole (see below pictures).

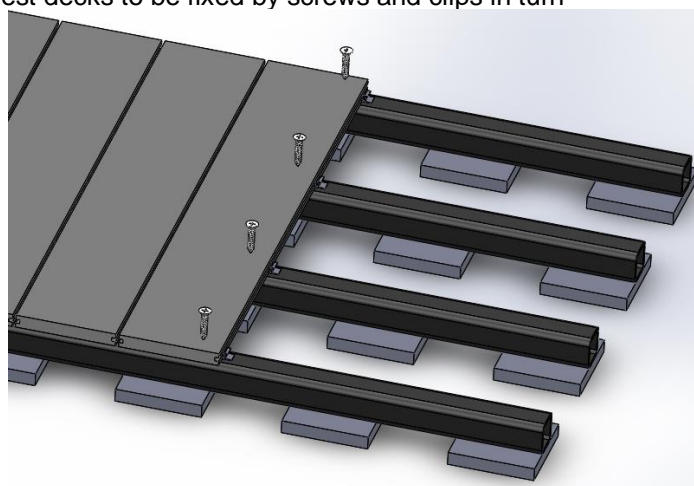


3C. Without starting clips, but screw from the top

First, from the top of the deck, predrill a hole for the screw and into the joist;
Second, fix the screw into the hole(see below pictures).



After the first deck is fixed, the rest decks to be fixed by screws and clips in turn



Attention: The WPC products' expansion rate is around 0.3% to 0.5% depends on deck length and weather condition in different places. Based on this expansion rate, there must be a gap (at least 3mm) always between two decks.

Specifically, the gap can be calculated according to the following formula.

$$\Delta L = \zeta \times (T_{\max} - T) \times L$$

Illustration:

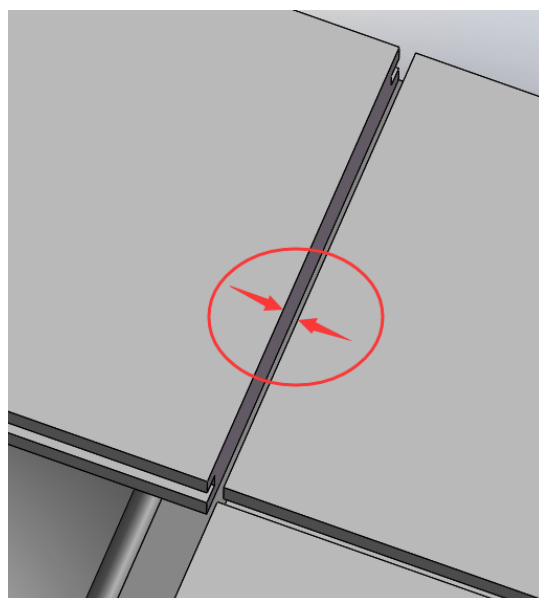
- ΔL : Gap required for Length of Board
- ζ : Coefficient of Linear Expansion(0.04mm/m*°C)
- T_{\max} : Max. Temp. in your region(°C)
- T : Installation Temp. (°C)
- L : Length of Board (m)

For example:

If the highest temperature in your region is 40°C and now your installation temperature is 10°C, then the gap required for a 2.9m decking board is

$$\Delta L = \zeta \times (T_{\max} - T) \times L = 0.04 \text{ mm/m}^{\circ}\text{C} \times (40^{\circ}\text{C} - 10^{\circ}\text{C}) \times 2.9\text{m} = 3.48\text{mm}$$

Then we know the gap between the two decking ends should be 3.5mm.



4. Finishing

4A. without covering

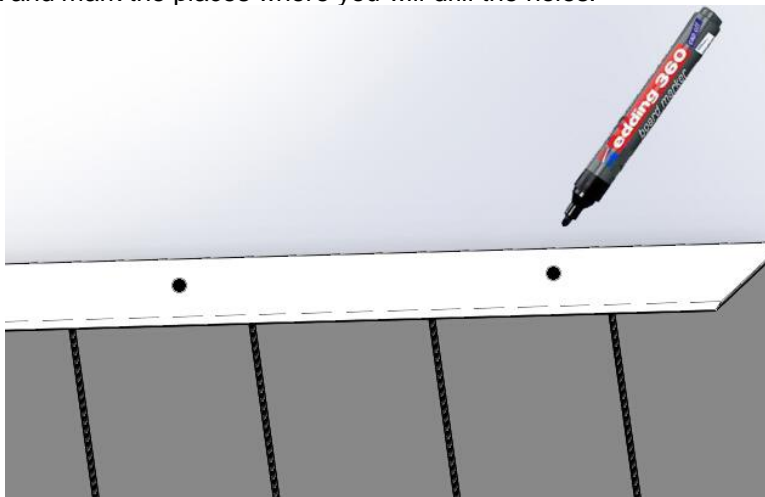
Sometimes, the application site is not suitable or not convenient to have covering, then the edge can be left without covering.



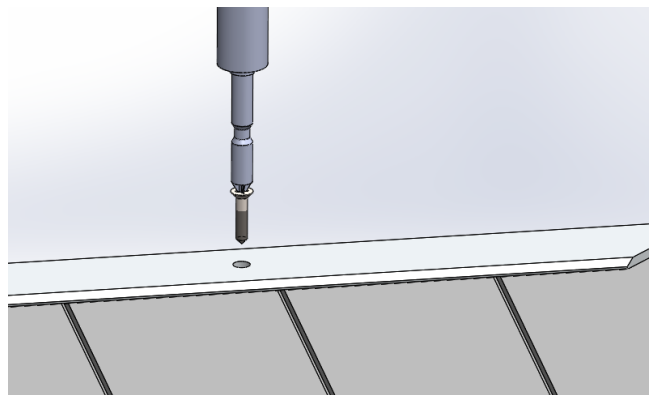
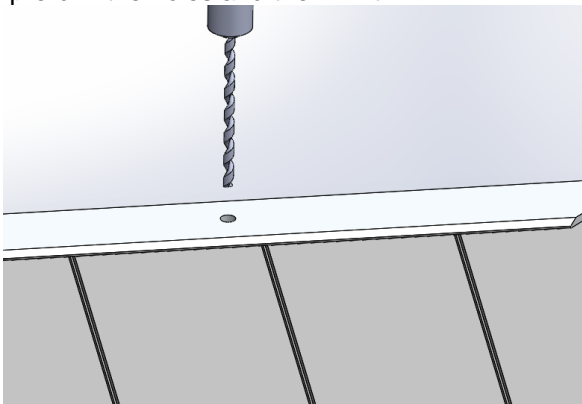
4B. with L shape aluminum or WPC covering

L shape corner cover is also available for an attractive finish.

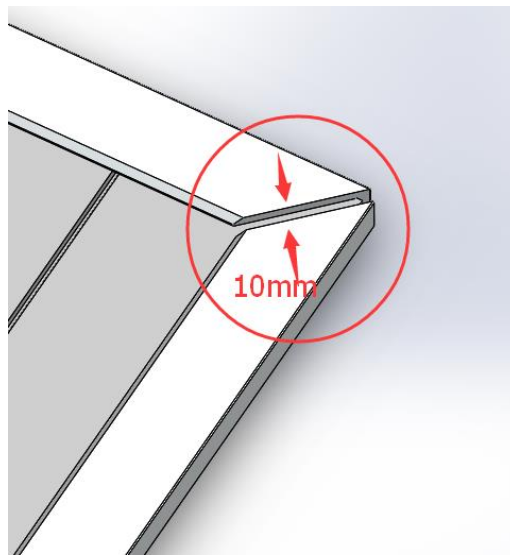
Lay the covering on the deck and mark the places where you will drill the holes.



Next, pre-drill the holes and then fix it.



To make the L shape coverings
meet well at the corner,
the aluminum or WPC covering will
be made as crosscut shape
as right picture shown.
Here please ensure that
there is at least 10mm between
the crosscut ends for
expansion if it is WPC material covering.



Care and cleaning

Circumstances	Recommended Solutions
Dirt & Debris	Clean deck to remove dirt and debris by soap and hot water. Sand it with stiff bristle if needed.
Water stains	There will be some water stains on the surface of the newly installed terrace when the water evaporates after rain. It is temporary phenomenon which will disappear in about 1-2 months by itself. It can be cleaned by wiping the surface with steel wool
Oil/Grease/Food stains or Minor Scratches	Rinse these kinds of stains as soon as possible (make sure to deal with it within 7 days) by warm, soapy water and sponge. Steel wool or sandpaper can also be used if the stains are hard to be removed.
Ice & Snow	Some rock salt can be adopted to melt the ice and snow before remove them. Only a plastic edge shovel can be used and Never use a metal shovel on the deck, for it may scratch the deck, which is not covered by the warranty
Pressure washer	If you clean the terrace with a high pressure washer/hose/cleaner, you must keep a distance of at least 30cm from the terrace sections to avoid the damage on deck surface.
Mold and Mildew	Good drainage and ventilation will prevent the occurrence of mold and mildew effectively. While still it's hard to eliminate the mold and mildew completely due to different application environment, climate and etc. Once there is mold and mildew, make sure to remove any decaying organic material around it and meanwhile, use warm soapy water and a soft non-metal scrub brush to clean it.
Disposal	Sentai WPC deck should be disposed with normal construction debris or household waste. Do not burn Sentai WPC deck.

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Each ton WPC we produced is equal to save one and half 30-year-old eucalyptus trees, and will reduce 1 m³ deforestation.



Each ton WPC we produced is equal to save 60000 pieces discarded plastic bags, 80 barrels oil and 11 ton Standard coal.

