

Unpacking And Unloading Instruction For PV Module of Aikosolar

To ensure the safety of unpacking and unloading of PV modules,
please read this instruction carefully.



■ 1.Unpacking



1.1 Equipment and tools: cutters, gloves, forklifts.



1.2 Staffing: at least 2 persons, Standard 3 persons.

1.3 Unpacking steps

1.3.1 Cut off the packing tape after stacking and scoop out the upper pallet with a forklift and place it on the ground. Use Forklift truck to move pallet packing box to work area, avoid violent jolt and vibration when moving the modules. Avoid pallet tipping backwards during transportation. In the case of a manual forklift, it is best to enter from the short side of the pallet.



■ 1.Unpacking For Standard packing

- 1.3.2 Check the integrity of the carton, the module power indicated on the carton and other information. (Note: The printed and labeled contents of the carton vary with the product model batch. The printed and labeled contents shown in the following pictures are for reference only.)



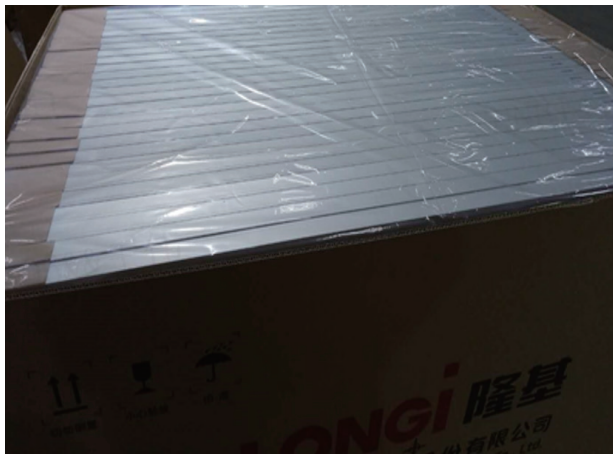
Shipping Mark
Packing List and others

- 1.3.3 Open the plastic-steel packing tape of the carton. Find the binding part of the straps and hold the ends of the joint with both hands, pushing in the opposite direction to separate them.



■ 1.Unpacking For Standard packing

1.3.4 Remove the PE film on the top cover, remove the wrapping film outside the carton, take care not to damage the carton, (No PE film above some modules) , and part of the module paper corner at both ends of the glass fiber tape fixed on the hoarding, must be torn off, then remove the top cover.



1.3.4 Remove the carton box.

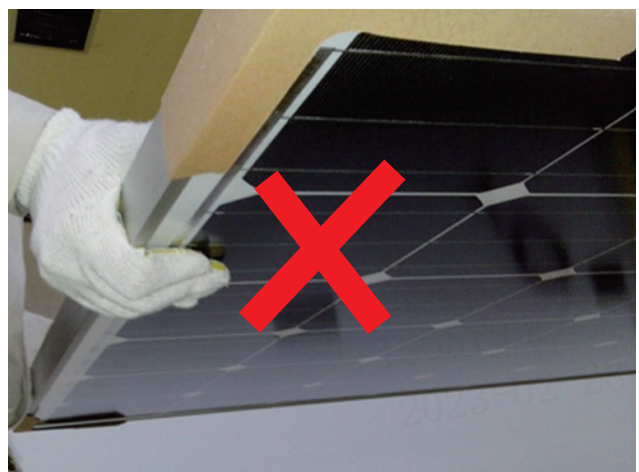


■ 1.Unpacking For Standard packing

- 1.3.6 One person at each station on the short side of the pallet holds the module to prevent it from tipping. Another person unwraps all the inner straps, removes the top plastic wrap, and removes the straps and inner ridges. The two persons holding the module push the module gently so that the module leans against the support. The support is parallel to the long side of the pallet at a distance of 15-20cm.



- 1.3.7 Move the modules. Two people hold the two short edge of the module, while the strength, the module to the designated location. Wear protective gloves during unpacking to avoid scratching your hands. Please grab the inner side of the frame to move the modules. Do not let your fingers touch the glass surface. Avoid leaving fingerprints on the glass surface.



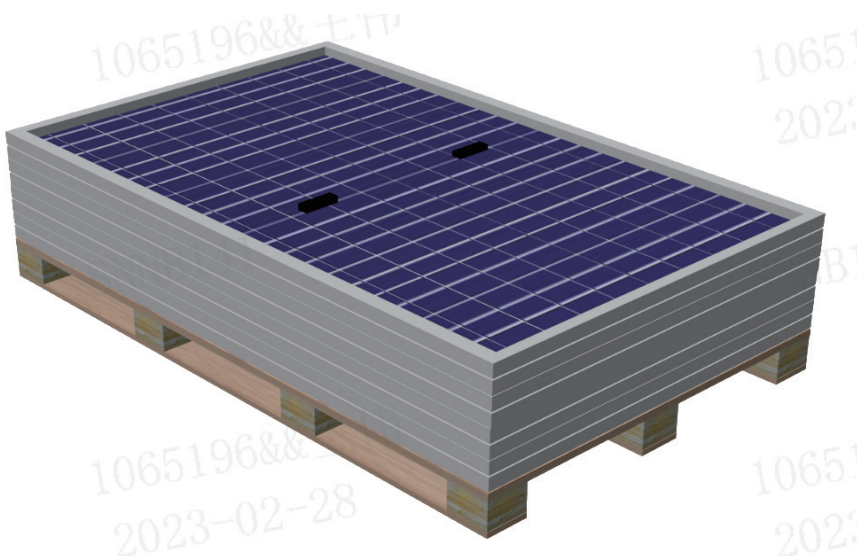
■ 1.Unpacking For Standard packing

1.3.8 The two person gradually move all the modules away.



1.3.9 The two person gradually move all the modules away.

1.3.10 If the modules are not installed immediately after disassembly but instead need to be moved from a vertical position to a flat position, place a "Fake module" on the pallet (if not, replace it with the top cover of the packing case), then place the first module glass face up and stack the rest of the module glass face down. The maximum number of stacks does not exceed one box of modules.



■ 1.Unpacking For Standard packing



Attation:

- a. Modules must be aligned after stacking, or modules will fall off during transportation;
- b. When unpacking in the open air, it is forbidden to work in rainy conditions, because the carton will become soft and spread out in the rain, and the PV modules inside will break off, causing damage or hurting people;
- c. If there is wind on site, you need to pay special attention to safety, especially in high winds, it is recommended not to move the modules, and properly fixed the package has been unpacked;
- d. The operation ground needs to ensure that the packing box can be placed horizontally and stably to avoid dumping;
- e. Wear protective gloves during unpacking to avoid scratching your hands and leaving fingerprints on the glass;
- f. The forklift truck shall be free from violent jolts and vibrations during movement of the modules. Avoid pallet tipping backwards during transportation. In the case of a manual forklift, it is best to enter from the short side of the pallet;
- g. Carton printing and label content may vary depending on the product model batch. The printout and label contents of all pictures in the file are for reference only.

■ 2.Unloading From Container

2.1 Pre-preparation:

Forklift, loading platform and unloading tools.If the container is unloading on the unloading platform, it is required to be used with the unloading platform or tooling.



2.2 Staffing:

A skilled forklift operator.

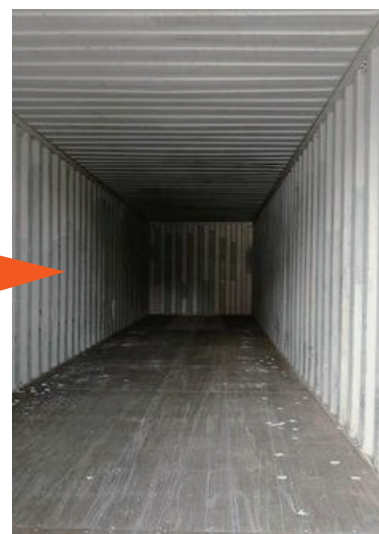
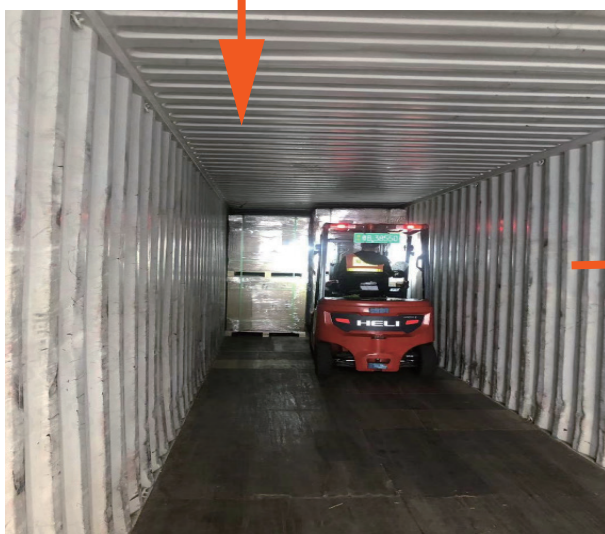
2.3 Unloading steps

2.3.1 After checking the information correctly, open the container door.Cut the straps and remove the air bag.



■ 2.Unloading From Container

2.3.2 The forklift forks the stack modules out from the short or long sides of the pallet.Until all trays are crossed out.



■ 2.Unloading From Container

Attation:

- a. In the process ounloading, the forklift should be selected reasonably according to the size and weight of the goods. If the fork length is less than 3/4 of the size of the goods,extension sleeves should be fitted on the forks before the modules is forked. in order to avoid the packing carton dumping when moving the forklift ;
- b. When the forklift is loaded with modules,the spacing between the two forks should be adjusted as required. the load of the two forks should be balanced without deflection. One side of the module carton box should be close to the retainer(Pic below);



■ 2.Unloading From Container

- c. Avoid sharp objects (such as forklift pallet fork) contract or collission with module carton box body parts, so as not to damage the internal module(Pic below);



- d. Loading and unlaoding process,except forklift operator,others should be kept a safe distance from range, ensure the safety of personnel;
- e. During loading and unloading,special command isrequired to avoid failure and making modules down;

■ 2.Unloading From Container

- f. When using a forklift to move palletized packing carton boxes to the operation area, the forklift shall be slowly and steadily lifted and put down gently during loading and unloading, and the module shall avoid turbulence and violent vibration during transportation;
- g. In order to prevent the safety of placing and unpacking modules affected by tilt and uneven ground, please choose flat ground when unloading;
- h. When unloading on the platform or ground, steel plate pads or tooling shall be used to assist in moving the goods out of the container smoothly, to avoid module bumps caused by the gap between the platform and the container floor (Pic below)



■ 2.Unloading From Container

- i. It is recommended that the inclination angle between the fixture pad and the plane should be less than 5° , so as to avoid the forklift hitting the top of the container due to too much inclination when it comes out of the container;
- j. When unloading cross-loading modules, special command is required to ensure that the forklift does not exceed the modules, and prevent damage to adjacent modules when the fork is raised or placed due to excessive length of the forklift arms (Pic below);
- k. When unloading, the whole module should be balanced as far as possible, the forklift arm should be kept relatively horizontal, and the forklift truck should fork the modules out of the container slowly and smoothly;



■ 2.Unloading From Container

- I. During the fork out of the pallet. it is allowed of 2-3cm spacing between modules and carton box walls or adjacent modules, and then move back slowly to prevent the carton from being damaged by friction between modules and box wall or adjacent pallets(Pic below);



■ 2.Unloading From Container

- m. When the goods go out of the container port, please slow and lower the height of the forklift arm from the ground (it is recommended to close to the bottom plate to reserve enough space for the top), pay attention to the distance between the bottom of the goods and the top of the container, prevent the goods from colliding with the top of the container, and ensure that the whole pallet module is safely removed from the container (Pic below);



2.Unloading From Container

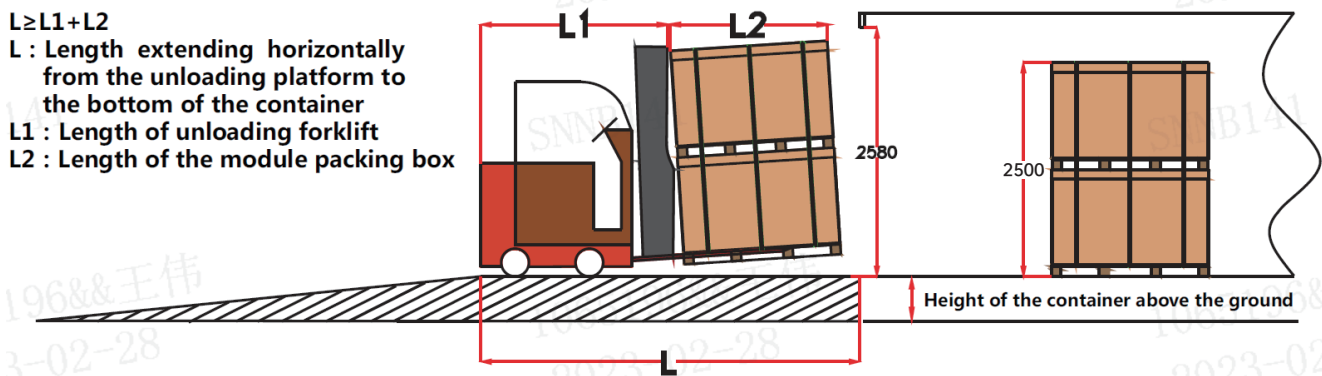
- n. If the modules need to be temporarily stored after unloading, it is recommended to keep sufficient space between each pallet to avoid scratching the carton or pallet during the second transfer;
- o. The height of the unloading platform and the height of the unloading tooling should be kept at the basic level with the bottom of the container (loading bottom plate), and the height tolerance should be controlled with $\pm 10\text{mm}$. The length of the horizontal extension of the unloading platform or unloading tooling $L \geq$ the total length of the unloading forklift and the length of the module packing carton box.

$L \geq L1 + L2$

L : Length extending horizontally from the unloading platform to the bottom of the container

L1 : Length of unloading forklift

L2 : Length of the module packing box



2.Unloading From Container

- p. When the container is unloaded:When using the fuel forklift, adjust the height of the forks from the ground, the forks into the short side of the pallet, after the forks into the bottom, lift the modules at an appropriate height (the tilt angle required to lift the modules $\leq 2^\circ$), the smaller the distance from the ground when the forklift out of the container door,ensure that the height of the forks from the ground and the distance from the goods to the top of the container is not more than 80mm. When the horizontal electric forklift is used to unload the goods,the arm length of the forklift mechanical arm is required to be $\geq 1800\text{mm}$.The armlength of the forklift mechanical arm is required to lift the modules from the short side of the pallet with a fork(the height of the forklift is required to be $\leq 40\text{mm}$ from the ground),and the modules are moved out slowly.If the modules are unloaded from long side, fuel oil forklifts areneeded to unload.

