

HANDING INFORMATION

1.1 Forklift Handling Precautions

- In the process of loading and unloading, 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 assembly is forked, in order to avoid the packing container dumping when moving the forklift ;
- 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 assembly box should be close to the retainer (Figure1) ;



Figure 1



Figure 2

- Avoid sharp objects (such as forklift pallet fork) contact or collision with module box body parts, so as not to damage the internal modules(Figure 2);

HANDLING INFORMATION

1.1 Forklift Handling Precautions

- Loading and unloading process, except forklift operator, others should be kept at a safe distance from range, ensure the safety of personnel ;
- During loading and unloading, special command is required to avoid failure and making modules down;
- When using a forklift to move palletized packing boxes to the operation area, the forklift shall be slowly and steadily lifted and put down gently during loading and unloading, and the modules shall avoid turbulence and violent vibration during transportation.

1.2 Notes for Container Handling

- In order to prevent the safety of placing and unpacking modules affected by tilt and uneven ground, please choose flat ground when unloading.
- 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 (Figure 3);
- 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 hit the top of the container due to too much inclination when it comes out of the container;
- 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 fork is raised or placed due to excessive length of forklift arms (Figure 4);
- When unloading, the whole modules 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;



Figure 3



Figure 4

HANDLING INFORMATION

1.3 RSPL Panels Container Handling Requirements and Precautions

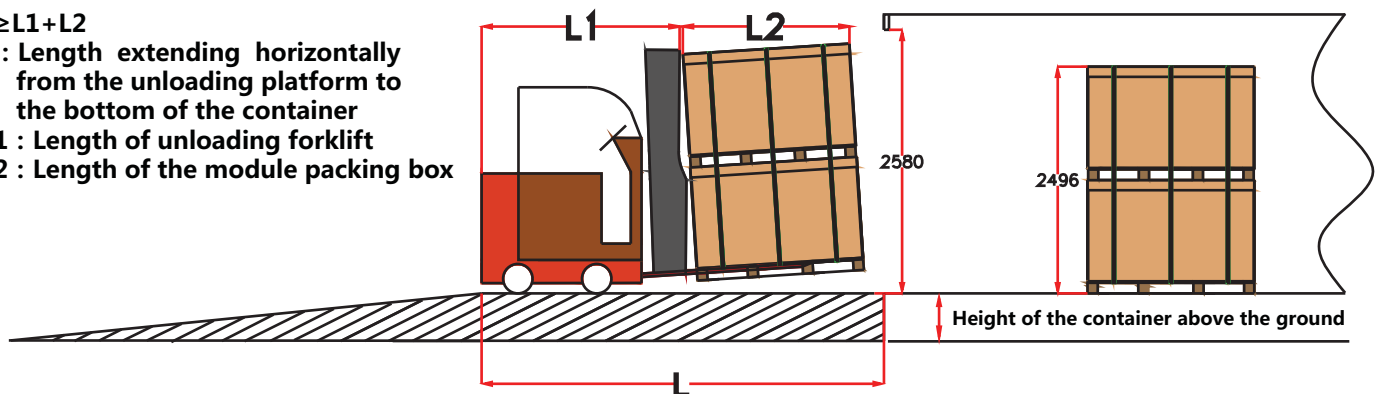
- The height of the unloading platform and the height of the unloading tooling should be kept at the basic level with the bottom of the container (loading bottom plate), and the height tolerance should be controlled within $\pm 10\text{mm}$.
The length of the horizontal extension of the unloading platform or unloading tooling $L \geq$ the total length of the unloading forklift and the length of the module packing box.

$$L \geq L1 + L2$$

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

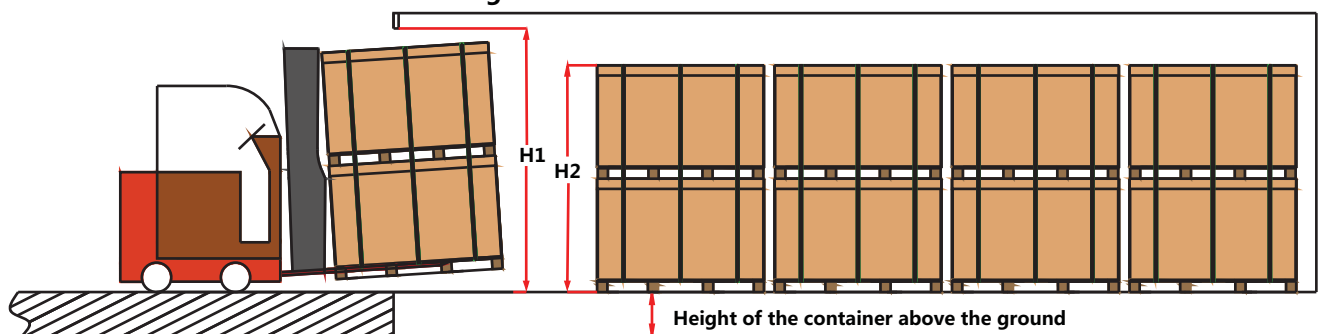
L1 : Length of unloading forklift

L2 : Length of the module packing box



- 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 $< 2^\circ$), 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 arm length 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 forks, fuel oil forklifts are needed to unload.

H2: Height of the module packing box
H1: Height of the container door



HANDLING INFORMATION

1.4 Attention in loading and unloading with hoisting

- The hoisting rope of crane unloading needs to choose a longer nylon sling / wire rope is not allowed to use (Figure 7) ;
- Before lifting, the length of the sling should be evenly distributed on both sides to avoid the case body tilting to one side during lifting, which causes the sling to be too tight and the assembly to explode;
- When lifting, the box should be kept balanced to avoid module tilting ;
- When someone is required to direct the hoisting box to fall down during unloading, it shall be kept as flat as possible to avoid collision and throwing of the module box, and the ground shall be flat (Figure 8).



Figure 7



Figure 8

- In order to minimize the impact of sling on the safety of goods in the process of hoisting, the modules without frame should be supported during loading and unloading. For example, wooden sticks, boards or other fixtures of the same width as the outer packing cases should be used on the upper part of the box to reduce the pressure of the contact position on the box (Figure 9).

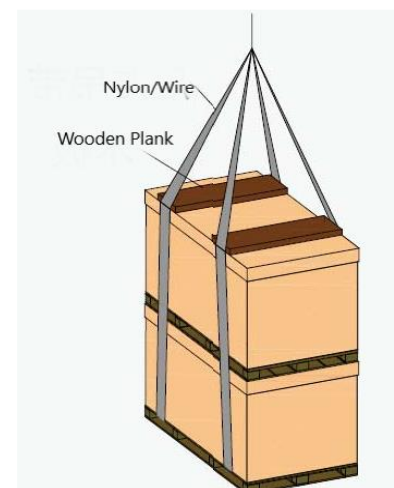


Figure 9

STORAGE INFORMATION

2.1 Attentions for storage

- Due to the complex environment and climate of the project site, it is recommended to store the stacked modules with single support after dismounting in order to ensure the safe storage of the modules on site (Only after cutting the outer packing belt of the connecting two brackets, separate the upper and lower brackets), The double glass modules should be stored with single support after dismounting ;
- The modules should be stored in a complete outer package, and the storage area should be protected and pallets and packing cases from damp, direct sunlight and waterproof (rain) measures ;
- The modules storage areas should be kept dry, level, the ground and the horizontal Angle is less than 10 ° ;
- Make sure that all modules with the same current gear are installed in the same area centrally (Square matrix, bus box);



Figure 10



Figure 11

- The modules should be placed neatly with a safe distance between the boxes. The spacing between boxes should be greater than 30cm(Figure 10);
- Please do not stack other items on the modules or boxes (Figure 11).



PV Module Loading-Unloading-Handling

STORAGE INFORMATION

MODULE SHOULD BE HANDLED BY 2 PERSONS



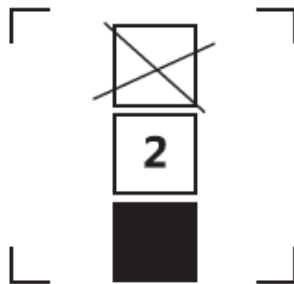
MODULE SHOULD BE HANDLED BY 2 PERSONS

KEEP DRY



KEEP DRY

STACK LIMIT IN 2 UNITS THIS SIDE



STACK LIMIT IN 2 UNITS

THIS SIDE UP



THIS SIDE UP

FRAGILE



FRAGILE

DO NOT STEP ON



DO NOT STEP ON