



## Dehui Packaging and Shipping Manual

The following are recommendations for the proper packing, unpacking, storing and moving of the Package Carton for Dehui POWER (VIETNAM) CO., LTD. (Dehui) standard modules.

The PV modules are packed in a box made from triple-strength cardboard and resting on a wooden or plywood pallet.

The outer carton sleeve has a lid which is made from double strength cardboard.

### **BASIC HANDLING SAFETY RULES**

Move full bulk package solution via forklift or jack entering from the short side of pallet.

Safety Warning: Never manipulate or move a partially full carton, without stabilizing the remaining modules from shifting. Movement may cause the remaining modules in a partially full carton to shift, even with the stabilizing horizontal separator strips affixed, causing an unsafe handling situation. These conditions arise particularly when utilizing a forklift.

- When handling goods, it is obligatory to use correct safety equipment
- Move closer to the object when lifting.
- Make sure you have a strong foothold, keeping feet evenly spaced.
- Two people are necessary to lift modules, one person on each short side.
- One person should not attempt to pick up the module by the long side of the frame as this may cause frame integrity damage. It could also lead to back strains.
- Do not lift a heavy weight above the waist in a single movement.
- When lifting a module above waist height you should not have your arms fully extended and always with your arms bent.
- Check the route you will take when moving the goods beforehand, making sure there are no obstacles on the way.
- Any movement of excess weight items shall be carried out by mechanical methods to reduce the potential for injury.
- Keep the work area clean.

### **PACKAGING STEPS**

- Place the pallet and bottom cover against the bracket or support surface.
- Start to pack the modules successively against the bracket or support surface. Inside the box, 30 modules are placed sideways and are alternately protected with protectors on each corner. Important note: The first & last module should be placed so that the glass faces inward.
- After packing the 30 modules, set 2 straps near the corner protectors.
- Place cardboard sleeve around the modules. Make sure each module barcode is not damaged.
- After setting the lower enclosure frame, attach the module bar codes sheet (each box

# DEHU

has a unique code). Then cover the top and remove the bracket.

- Bound two straps vertically on the short side, then 2 straps vertically on the long side.
- Repeat the operation with a second box on top of the other. Bound two straps vertically on the short side.

## CONTAINER LOADING & HANDLING GUIDELINES & INSTRUCTIONS

- The boxes should always be handled using mechanical equipment (e.g. Forklift truck).
- It is recommended to lift the pallets from the short side. The forklifts should not be too small because it needs to avoid pallet tilting back during transport. The mobile forklifts need to slowly move up and down to grasp the center of gravity of the modules
- Pallets should be stored a maximum of 2 high in the container.
- It is recommended that loading is done lengthwise both in trucks and containers; this also applies to storage in warehouses.
- Pallets should be placed one on top of the other so that corners are flush and there is no overhang. The critical path for the loading is to align the pallets in the container with equal gaps as shown in the picture below for the 1st tier and also align the second tier exactly on the 1st tier in order to prevent the overhang or damage of the pallets.
- Once loaded, the goods should be attached inside the storage area of the truck or container, so as to avoid any kind of movement. All trucks or containers must be provided with straps to fasten the goods.
- Once loaded, the goods are locked with supporting wooden planks nailed to the floorboard to prevent shifting.
- The container doors should be locked properly, so as to avoid any kind of movement.





## INSTRUCTIONS FOR SAFELY OPENING THE PACKING BOX

- Inspect external packaging after receiving the goods
- To ensure that the products inside are not damaged, it is necessary to first make a visual check:
- The pallet should be in good condition: that is to say without broken or badly fastened slats or other elements.
- Ensure that the box and lid are in perfect condition; i.e.: no evidence of it having been hit or dented, no breakage or other visual defects.
- Ensure that the boxes are correctly aligned to the pallet dimensions.
- Equipment and tools: cutters or scissors, gloves, forklift.
- Staff: at least three people
- Attention: If opening the box outside, please avoid during rainy conditions. The rain will soften the box, may damage the modules and hurt the staff.
- Please pay special attention to the safety when it is windy. When the wind is strong, it is not recommended to handle the PV modules.
- Please ensure that the box is placed stably and horizontally to avoid tilting.
- Please wear gloves during the opening of the packing box to avoid hurting hands and leaving fingerprints on the glass.
- Move the packing box with pallet by forklift to the operation area.
- The long side of the unopened PV modules need to be near a solid wall, stand or other unopened PV modules with the same specifications, parallel with the long side of pallet; the recommended distance is 15-20cm.

## STORAGE INSTRUCTIONS

- Pallets should be handled so as to minimize any chance of damage to the box or its contents.
- Any transportation within the warehouse should be authorized by the person in charge.
- All handling inside or outside the warehouse using a machine should only be undertaken by people correctly trained for this activity.
- Pallets should be handled using forklift trucks or pallet trucks.
- For safety reasons pallets should not be piled more than specified layers as shown on the outer carton box sleeve, and they should only be moved using the correct mechanical equipment.
- Pallets should be piled one on top of the other so that corners are flush and there is no overhang.
- The warehouse should be correctly laid out and the storage area clearly signed.
- The carton is not completely waterproof. The structural strength will be low after the carton becomes wet and danger may occur. So please put the modules in a ventilated and dry place where they can be protected from rain.
- The carton boxes can be stored by stacking, but the height should not be more than two

# **DEHU**

levels.

- Don't step on the cartons and PV modules.
- It is forbidden to put the modules near corrosive chemicals or gases and the location needs to be fireproof.