



BHEL-EPD

Electric and Photovoltaic Division
BENGALURU – 560012, INDIA
Purchase Specification
Group: Photovoltaic Module

SPEC. NO: EP: SPV: PC: 01

REV. 00

JOB NO. - STD.

PAGE 01 OF 02

Packing of SPV module with LD Polythene Cover

SCOPE: The Scope of Packing the SPV modules involves:

- i. Supply of SPV Modules packing materials as per the Bill of Materials provided in BHEL drawing no 3 988 06 002 10 rev 01.
- ii. Carrying out the packing of SPV Modules using the material supplied as above and as per the procedure of packing indicated in this document below within the premises of BHEL – EPD, Bengaluru. The scope also includes providing the requisite manpower as per the required skill and competency to carry out the SPV Modules packing both in Auto Packing Equipment and in Manual mode as required and as instructed by BHEL.

1.0 PROCEDURE FOR PACKING :

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| 1.1 | <p>The SPV Modules are manufactured by BHEL on an automated manufacturing line, wherein the SPV Modules are being delivered by an automated conveyor and an automatic sorter machine sorts the SPV based on the rating. For any given rating, normally 28 Nos of SPV Modules are to be packed in one box.</p> <p>The sequence of operation for packing on the Auto Packing Equipment is as follows:</p> <ol style="list-style-type: none">a. The corner caps for the SPV Modules are to be fixed on the Modules as it enters the sorting station.b. At fixing the corner caps, the sorting command shall be given by pressing the button to commence the sorting.c. The first SPV Module for every stack, the module shall be turned 180 Deg., in order to ensure that glass front is not facing outside in the packed box.d. Once, the stack is full with 28 Modules, the stack shall be removed from the sorting station and moved to inspection area.e. At inspection station, the lot will be inspected by BHEL Quality personnel. The packing slip will be generated by scanning of the module stack and will be signed and released by BHEL Quality.f. The contractor then has to take the accepted stack along with the packing slip to the auto packing equipment and carry out the packing as per the work instructions of Auto Packing Machine.g. The packed box then shall be further transported to the FG – Finished Goods Yard or other place as directed by BHEL Personnel. |
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Note :

The contractor shall ensure the following while carrying out the packing activity within BHEL – EPD, premises.

- a. It must be ensured that modules cleared by BHEL should be packed immediately, without undue delays.
- b. Safekeeping of the module stack shall be ensured till it is not used for packing and it is to be carefully stored in area prescribed by BHEL.
- c. Vendor has to operate auto packing machine in accordance with procedure mentioned in work instructions of packing.
- d. Ensure deployment of skilled and competent manpower, preferably with qualification viz., ITI Technicians or Technical Diploma holders for operation of the equipment.
- e. The packing process is to be carried out in all the three shifts and even on Sundays and holidays, as per the instruction of BHEL Personnel.
- f. In event Auto Packing Facility is not available, manual packing has to be carried out as per instructions of BHEL representative and as per the instructions for manual packing.
- g. Quality of the packing will be verified by SPV Quality/production department of BHEL.
- h. Account of numbers of boxes received and used to be maintained by vendor as per prescribe format and same will be subjected to verification to SPV Production department authorized personnel on daily basis.
- i. Minimum of 5 persons are to be deployed by the contractor per shift. The scope of supervision, execution and safety compliance for the manpower deployed rests with vendor.
- j. The contractor has to take utmost care and operate the BHEL material, & equipment viz., the auto packing equipment as per the instruction and not indulge in any activity that may cause damage or breakdown. In case of any damage occurs to BHEL's equipment, modules and facility due to the fault of the contractor's employee then the cost towards damage will be recovered from vendor.

1.2	Auto Packing As per work instructions SPV/0901/09 Rev. 02.
1.3	Manual packing As per work instructions SPV/0901/09 Rev. 02.

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WORK INSTRUCTIONS

ISSUE	01
REF.	SPV/0901/09
REV	02
DATE	05-04-2019
PAGE	27 OF 32

Work Instruction for Manual-packing of SPV Modules

1. Screw the carton box on to the wooden pallet.
2. Place 5 ply carton sheet of dimension 1975x1065 mm at the bottom of the box.
3. Place corner caps suitable to match frame profile at the four corners of the PV module.
4. Place 28 nos. Of PV modules with corner caps inside the box.
5. Put 1 no retainer strip (1265x100mm) at each end of the box on the modules.
6. Close the carton with the top cover.
7. Self-adhesive BHEL specified color sticker of size 100x100 mm. To be affixed on the printing side.
8. Write the carton box no. & put a packing slip on printing side indicating sl. No, Module sl. No. & Pmax.
9. Wrap the carton box tightly along with wooden pallet with bale pati at two places each on width and length side.
10. Wrap the carton box with a polyethylene stretch wrap all round for protecting against rain.
11. Stack and store the packed boxes in a safe place.