



ELECTROPORCELAINS DIVISION
BENGALURU – 560012, INDIA

PS 901 05 0001

Rev No : 01

Purchase Specification
Group : Photovoltaic Module

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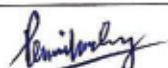
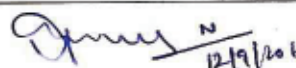
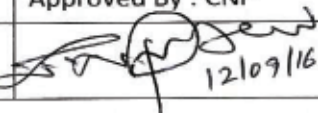
SILICON SOLAR CELL - MULTI CRYSTALLINE (MC) 3 BUS BARS

1.0 PHYSICAL CHARACTERISTICS

- 1.1. Material : Multi Crystalline Silicon
- 1.2. Dimensions : 156 ± 1 mm (Side to Side)
- 1.3. Shape : Square
- 1.4. Thickness : 200 ± 20 microns
- 1.5. Metallization
- 1.5.1. : Front – Silver
- 1.5.2. : Back – Silver bus bars with Aluminium BSF
- 1.5.3. : Number of Bus Bars – 3 (Three – Front & Back)
- 1.6. Anti-Reflection coating : PECVD – Silicon Nitride (Blue colour)

2.0 ELECTRICAL CHARACTERISTICS:

- 2.1 Power output : ≥ 4.38 Watts per Cell
- 2.2 Solar Cell Efficiency : ≥ 18.0 %
- 2.3 Voltage at Max. Power Point : 530 mV (Typical)
- 2.4 Open Circuit Voltage : 630 mV (Typical)
- 2.5 Short Circuit Current : 8.70 A (Typical)
- 2.6 Fill Factor : 0.77 (Typical)

Prepared By : PK	Reviewed By : NAR	Approved By : CNP	Date of Issue
	 12/9/2016	 12/09/16	12.09.2016



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3.0 MECHANICAL & VISUAL CHARACTERISTICS :

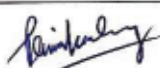
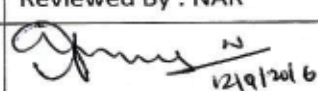
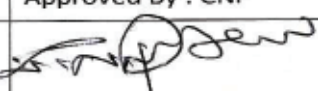
- a. Cells shall not have any edge chips of size more than 0.5 mm width and 2.0 mm length. Chip extending on to grid line irrespective of size shall not be acceptable.
- b. Cells shall not have any surface chipping or hole of size more than 0.5 mm.
- c. Cells shall not have any visible cracks or deep scratches.
- d. Cells shall not have bow formation of more than 2.0 mm.
- e. Cells shall not have print shift, finger knots and other printing defects of more than 0.5 mm on width and 3.0 mm on length.
- f. Cells shall not have busbar interruptions, finger print interruptions, finger breaks, etc.
- g. Cells shall not have Silicon Nitride coating colour variations or inhomogeneity, as examined visually.

4.0 PACKING CONDITIONS

- a. Cells shall be packed tightly with heat shrinkable sleeves or polythene / polypropylene sachets. Sachets shall be packed in foam / thermocol boxes with soft pads on both ends or in polyethylene foam packing to absorb transit handling shocks. Packing of sachets shall be in carton boxes with soft spacers. The final packing of the individual carton boxes shall be in an outer sealed plywood box.
- b. Manufacturer name, Cell type, lot number, wattage / efficiency, quantity, date of manufacture to be identified on each sachet. Total quantity of cells in each carton and plywood box to be displayed.
- c. Certificate of Conformance (COC) shall be provided along with each consignment.
- d. BHEL Purchase Order (PO) Number and Item Description to be mentioned on the outer sealed plywood boxes.

5.0 INSPECTION AT BHEL

- a. Visual Inspection, Dimensional & Electrical Measurement
- b. Single Sampling Plan as per IS:10673-1983, Special Inspection Level S-4, AQL 1.0 for physical / mechanical defects and AQL 1.50 for surface defects.

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