



ELECTROPORCELAINS DIVISION
BENGALURU – 560012, INDIA

PS 901 05 0002

Rev No : 00

Purchase Specification
Group : Photovoltaic Module

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SILICON SOLAR CELL - MULTI CRYSTALLINE (MC) 4 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 – 4 (Four – Front & Back)
- 1.6. Anti-Reflection coating : PECVD – Silicon Nitride (Blue color)

2.0 ELECTRICAL CHARACTERISTICS:

- 2.1 Power out Put : ≥ 4.40 Watts per Cell
- 2.2 Solar Cell Efficiency : ≥ 18.20 %
- 2.3 Voltage at Max. Power Point : 530 mV (Typical)
- 2.4 Open Circuit Voltage : 640 mV (Typical)
- 2.5 Short Circuit Current : 8.80 A (Typical)
- 2.6 Fill Factor : 0.78 (Typical)

Prepared By : PK

Reviewed By : NAR

Approved By : CNP

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3.0 VISUAL CHARACTERISTICS :

- Cells shall not have any edge chips or cracks or deep scratches on the surface.
- Cells shall not have any misalignment in the front grid pattern.
- Cells shall not have any finger prints or stains or paste smudges on the surface.
- Cells shall not have Silicon Nitride coating colour variations or inhomogeneity.

4.0 PACKING CONDITIONS

- 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.
- 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.
- Certificate of Conformance (COC) shall be provided along with each consignment.
- BHEL Purchase Order (PO) Number and Item Description to be mentioned on the outer sealed plywood boxes.

5.0 INSPECTION AT BHEL

- Visual Inspection, Dimensional & Electrical Measurement
- Single Sampling Plan as per IS:10673-1983, Special Inspection Level S-4, AQL 1.0

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