



# TES Group Limited

Add: Wealth Commercial Center, 48 Kwong Wa Street, Mongkok, Kowloon, Hong Kong

Tel:0086-756-8929265

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...a member of TES Group of Companies

## TESPV Polycrystalline Module

TESPV-270W,275W,280W,285W,290W Polycrystalline Solar Module

### EFFICIENCY

- Low voltage-temperature coefficient allows higher Power output at high-temperature condition
- High efficient, high reliable solar cells ensure our Product output stability

### MATERIALS

- Advanced EVA encapsulation system with triple-layer back sheet meets the most stringent safety requirements for high-voltage operation
- The sturdy, anodized aluminum frame allows the modules to be mounted on a variety of standard racking systems and to withstand harshest conditions
- Ultra reliable bypass diodes prevent damage through Overheating due to shaded or defective cells
- Innovative, environmentally friendly packing method Using pile-edges insures modules arrive in perfect condition
- New frame design incorporating hexagonal shaped Drainage holes, with more grounding holes, provide Flexible installation and use

### BENEFITS

- Manufactured in an IEC61215,IEC61730,ISO 9001:2000, CE certified plant
- High efficiency ,high safety, high reliability
- Output power tolerance of +3 %
- 25-years Limited warranty on Power output,10-years limited warranty on materials and workmanship



### NOTE

This publication summarizes product warranty and specifications, which are subject to change without notice, additional information may be found on our web site: [www.tessolarwater.com](http://www.tessolarwater.com)

### SPECIFICATIONS—TUV certified



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| ITEM NO                            | TESPV-270W<br>Polycrystalline   | TESPV-275 W<br>Polycrystalline | TESPV-280 W<br>Polycrystalline | TESPV-285 W<br>Polycrystalline | TESPV-290 W<br>Polycrystalline |
|------------------------------------|---|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Maximum Power(Wp)                  | 270   | 275                            | 280                            | 285                            | 290                            |
| Maximum Power Voltage(V)           | 36  | 36.1                           | 36.1                           | 36.3                           | 36.3                           |
| Maximum Power Current(A)           | 7.5   | 7.62                           | 7.76                           | 7.85                           | 7.99                           |
| Open Circuit Voltage(V)            | 44.0  | 44.1                           | 44.3                           | 44.5                           | 44.7                           |
| Short Circuit Current(A)           | 8.20  | 8.35                           | 8.4                            | 8.45                           | 8.5                            |
| Size of Module(mm)                 | 1956mm X 992mm X 50mm   |                                |                                |                                |                                |
| Size of Glass(mm)                  | 1950mm X 984mm X 3.2mm  |                                |                                |                                |                                |
| Size of solar cells(mm)            | Poly 156 solar cells  |                                |                                |                                |                                |
| Number of cells(Pcs)               | 6 x 12  |                                |                                |                                |                                |
| Maximum System Voltage(V)          | 1000 (TUV)  |                                |                                |                                |                                |
| Temperature Coefficients of Isc(%) | 0.065%/°C   |                                |                                |                                |                                |
| Temperature Coefficients of Voc(%) | -0.35%/°C   |                                |                                |                                |                                |
| Temperature Coefficients of Pm(%)  | -0.40%/°C   |                                |                                |                                |                                |
| Nominal operating cell temperature | 47°C±2°C  |                                |                                |                                |                                |
| Temperature Range                  | -40°C +85°C   |                                |                                |                                |                                |
| Surface Maximum Load Capacity      | 2400 Pa   |                                |                                |                                |                                |
| Maximum Wind Load Capacity         | 5400 Pa   |                                |                                |                                |                                |
| Allowable Hail Load                | 25mm@80km/h   |                                |                                |                                |                                |
| Weight Per Piece (kg)              | 24kgs   |                                |                                |                                |                                |
| Efficiency for module              | 13.95%  | 14.2%                          | 14.46%                         | 14.72%                         | 14.98%                         |
| Efficiency for cell                | 15.40%  | 15.70%                         | 16.00%                         | 16.30%                         | 16.60%                         |
| Warranty                           | 10 years product warranty and 90% of power output for the first 12 years of the modules life and 80% for the next 13 years for a total of 25 years warranty |                                |                                |                                |                                |
| Packing                            | 506pcs/40" container ,11 pallets,46pcs per pallet<br>180pcs/20" container , 5 pallets ,36pcs per pallet   |                                |                                |                                |                                |

Note: the specifications and obtained under the standard Test Conditions (STCs):1000W/ m<sup>2</sup> solar irradiance, 1.5 Air Mass, and cell temperature of 25°C

Electrical Performance cell temperature: 25°C



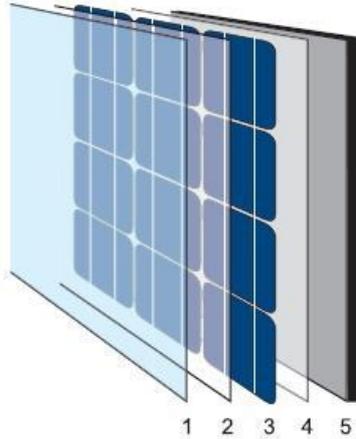
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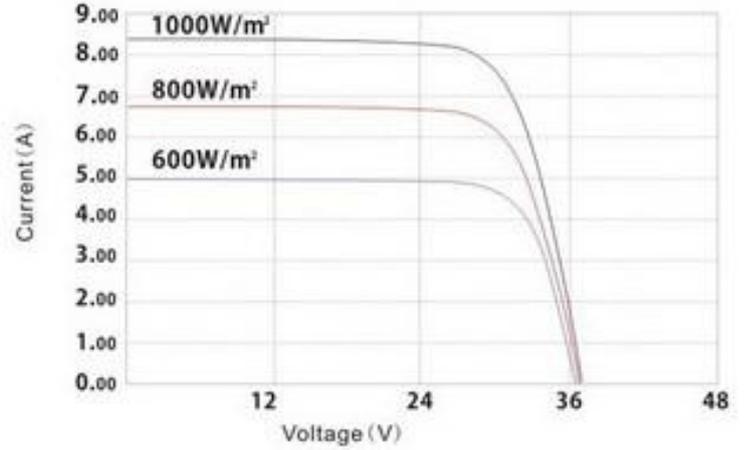
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- 1 Tempered glass
- 2 EVA
- 3 Cells
- 4 EVA
- 5 Multi-layer back sheet



I-V Curves at different irradiance

## PHYSICAL CHARACTERISTICS Unit:mm

