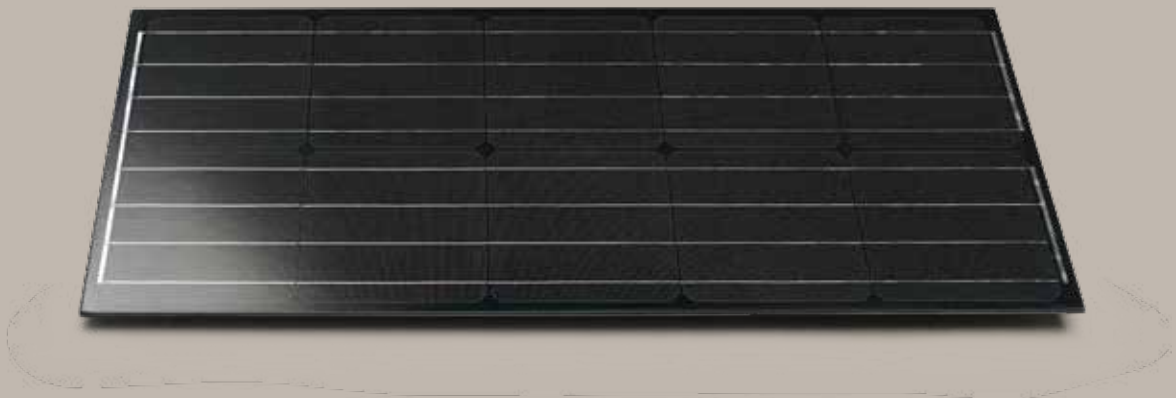


# WARRANTY MANUAL

BRISTILE **SOLAR**



# WARRANTY

## *Limited Warranty for PV Modules*

Terms and Conditions (the “Company”). Bristile Roofing (East Coast) Pty Ltd ABN 77 090 775 634

### **THE COMPANY**

Where the Company supplies and installs a roof consisting of building integrated photovoltaic roof tiles the Company warrants that the building integrated photovoltaic roof tiles are manufactured and installed in accordance with the relevant Australian Standards and are fit for the purposes for which goods of this kind are commonly supplied (“intended purpose”). The Company also warrants all other products that are installed by the Company as part of the original roof installation.

THE COMPANY PV Module Products covered under this warranty are:

BREC45S-Rab (referring to Index 1 BREC45S-Rab Datasheet).

For the solar module types listed above, THE COMPANY shall WARRANT its Photovoltaic Solar Modules’ (MODULES) performance (i) starting from the date of sale with an Original Copy of the THE COMPANY certifiable invoice (SALES DATE) to the first customer installing (for their own use) the MODULES (CUSTOMER) or (ii) starting at the latest 12 months after MODULES dispatch from the factory, whichever occurs earlier (the WARRANTY START DATE).

### *1. Limited Product Warranty – Ten Years Repair, Replacement or Refund Remedy*

THE COMPANY warrants its MODULES, including factory-assembled DC connectors and cables, if any, to be free from defect in materials and workmanship under normal application, installation, use and service conditions. If MODULES fail to conform to this warranty, during the period of One Hundred Twenty (120) months from the WARRANTY START DATE, THE COMPANY will, at its option, either repair or replace the product, or refund the current list price of comparable THE COMPANY MODULES. The repair or replacement or refund remedy shall be the sole and exclusive remedy provided under the “Limited Product Warranty” and shall not extend

beyond the period set forth herein. This “Limited Product Warranty” does not warrant a specific power output, which shall be exclusively covered under clause 2 hereinafter (“Limited Peak Power Warranty”). The Company will keep records of all serial numbers of modules manufactured and supplied in Australia.

### *2. Limited Peak Power Warranty – Limited Remedy*

Warranted Percentages of Nominal Power Output:

95% in the first five year, thereafter, 90% in the second five years after and 80% after 25 years.

THE COMPANY warrants each Module against defects in materials and workmanship, as per the Mechanical and Electrical Characteristics of the product’s Datasheet, that result in the failure of the MODULES to produce the warranted percentage specified above of the nominal power output for the Module set forth in THE COMPANY’s product datasheet. If THE COMPANY determines in its discretion that any Module is not providing the warranted percentage of the nominal power output because of defects in materials and workmanship, THE COMPANY will at its option either (1) replace such loss in power by either,

(a) providing additional MODULES to the CONSUMER to make up for such loss in power or (b) replacing the defective Module(s) or part by a functional equivalent or (2) refund the percentage of the Module(s) price, representing the percentage of the power that is less than the warranted percentage of the nominal power according to the current list price of comparable THE COMPANY MODULES.

The remedies set forth in this clause 2 shall be the sole and exclusive remedies provided under the “Limited Peak Power Warranty”.

Nominal Power Output in product datasheet is the power in Watts peak that a Photovoltaic Solar Module generates at its Maximum Power Point under Standard Testing Conditions (STC). STC are as follows:

(a) light spectrum of AM 1.5, (b) an irradiation of 1000 W

per m<sup>2</sup> and (c) a cell temperature of 25 degrees centigrade at right angle irradiation. The measurements are carried out in accordance with IEC 61215 as tested at the connectors or junction box terminals – as applicable – per calibration and testing standards of THE COMPANY valid at the date of manufacture of the PV-modules.

### 3. Exclusions and Limitations

To the extent permitted by law:

- (1) In any event, all warranty claims must be received within the applicable warranty period for this warranty to be effective.
- (2) The “Limited Product Warranty” and the “Limited Peak Power Warranty” do not apply to any MODULES which have been subjected to: Misuse, abuse, neglect or accident; Alteration, improper installation or application; Non-observance of THE COMPANY installation manual or maintenance instructions; Repair or modifications by someone other than an approved service technician of THE COMPANY; Power failure surges, lightning, flood, fire, accidental breakage, improper connections resulting in hazardous reverse current or other events outside THE COMPANY’s control.
- (3) Both “Limited Product Warranty” and “Limited Peak Power Warranty” do not cover any costs associated with installation, removal or re-installation of the MODULES (subject to last sentence of Clause 5) and customs clearance or any other costs for return of the MODULES.
- (4) Warranty claims will not be honoured if the type or serial number of the MODULES have been altered, removed or made illegible.

### 4. Limitation of Warranty Scope

THIS “LIMITED WARRANTY FOR PV MODULES” AS SET FORTH HEREIN IS EXPRESSLY IN LIEU OF AND EXCLUDES ALL OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR PARTICULAR PURPOSE, USE, OR APPLICATION, AND ALL OTHER OBLIGATIONS OR LIABILITIES ON THE PART OF THE COMPANY, UNLESS SUCH OTHER OBLIGATIONS OR LIABILITIES ARE EXPRESSLY AGREED TO IN WRITING SIGNED AND APPROVED BY THE COMPANY. THE COMPANY SHALL HAVE NO RESPONSIBILITY OR LIABILITY WHATSOEVER FOR DAMAGE OR INJURY TO PERSONS OR PROPERTY, OR FOR OTHER LOSS OR

INJURY RESULTING FROM ANY CAUSE WHATSOEVER ARISING OUT OF OR RELATED TO THE MODULES, INCLUDING, WITHOUT LIMITATION, ANY DEFECTS IN THE MODULES, OR FROM USE OR INSTALLATION. UNDER NO CIRCUMSTANCES SHALL THE COMPANY BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES, HOWSOEVER CAUSED. LOSS OF USE, LOSS OF PROFITS, LOSS OF PRODUCTION, AND LOSS OF REVENUES ARE SPECIFICALLY AND WITHOUT LIMITATION EXCLUDED. THE COMPANY POWER’S AGGREGATE LIABILITY, IF ANY, IN DAMAGES OR OTHERWISE, SHALL NOT EXCEED THE INVOICE VALUE AS PAID BY THE CONSUMER, FOR THE SINGLE UNIT OF MODULE. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE. THIS LIMITED WARRANTY DOES NOT AFFECT ANY ADDITIONAL RIGHTS YOU HAVE UNDER LAWS IN YOUR JURISDICTION GOVERNING THE SALE OF CONSUMER GOODS, INCLUDING, WITHOUT LIMITATION, NATIONAL LAWS IMPLEMENTING EC DIRECTIVE 99/44. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE LIMITATIONS OR EXCLUSIONS IN.

### 5. Obtaining Warranty Performance/ Claim Procedure

If the CUSTOMER wishes to bring a claim under this “Limited Warranty for PV Modules”, an immediate notification shall be filed by the CUSTOMER directly by letter, facsimile or email, and the notification should specify name and address of CUSTOMER, the evidence of the claim with the affected Module type, affected quantity and corresponding serial numbers together with the date on which the MODULES have been purchased. The notification shall include a copy of a related invoice document with stamp or signature of THE COMPANY or builders invoice as part of the evidence.

The CUSTOMER shall bring a claim under this limited warranty immediately after discovery of breach of warranty and within the warranty period.

The return of any MODULES will not be accepted unless prior written authorisation has been given by THE COMPANY.

To the extent permitted by law and subject to the last sentence in this clause, THE COMPANY will, in its sole discretion, either refund CUSTOMER (based on purchase price and taking into account of depreciation) for the defective MODULES, or repair or replace the defective MODULES.

In connection with both the “Limited Product Warranty” and “Limited Peak Power Warranty”, THE COMPANY shall reimburse the CUSTOMER for reasonable, customary and documented transportation charges by sea freight for both authorised return of defective MODULES and reshipment of any repaired or replaced MODULES, only if this cost is authorised by THE COMPANY.

THE FOLLOWING STATEMENT APPLIES TO CUSTOMERS THAT ARE ‘CONSUMERS’ WITHIN THE MEANING OF THE AUSTRALIAN CONSUMER LAW: The benefits given to the consumers in this warranty are in addition to other rights and remedies of the consumer under a law in relation to the goods or services to which the warranty relates. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

## 6. Severability

If a part, provision or clause of this “Limited Warranty for PV Modules”, or the application thereof to any person or circumstance, is held invalid, void or unenforceable, such holding shall not affect and shall leave all other parts, provisions, clauses or applications of this “Limited Warranty for PV Modules”, and to this end such other parts, provisions, clauses or applications of this “Limited Warranty for PV Modules” shall be treated as severable.

## 7. Disputes

In case of any discrepancy in a warranty-claim, a first-class international test-institute such as Fraunhofer ISE in Freiburg/ Germany, TÜV Rheinland in Cologne/ Germany or ASU Arizona State University shall be involved to judge the claim finally. All fees and expenses shall be borne by the losing party, unless otherwise awarded. And the final explanation right shall be borne by The Company.

## 8. Various

The repair or replacement of the MODULES or the supply of additional MODULES, does not cause the beginning of new warranty terms, nor shall the original terms of this “Limited Warranty for PV Modules” be extended. Any replaced

MODULES shall become the property of THE COMPANY for their disposal. THE COMPANY has the right to deliver another type (different in size, color, shape and/or power) in case THE COMPANY has discontinued producing the replaced MODULES at the time of the claim.

## 9. Warranty Transfer

This “Limited Warranty for PV Modules” is transferable when the product remains installed in its original installation location.

## 10. Force Majeure

THE COMPANY shall not be responsible or liable in any way to the consumer or any third-party arising from any non-performance or delay in performance of any terms and conditions of sale, including this "Limited Warranty for PV Modules", due to a force majeure event, including, without limitation, acts of God, war, riots, strikes, warlike conditions, perils of the seas, plague or other epidemics, fire, flood, or any other similar cause or circumstance beyond the reasonable control of THE COMPANY. In such cases, performance by THE COMPANY of this Limited Warranty shall be suspended without liability for the period of delay reasonably attributable to such causes.

## 11. Batch Defects

In the case of batch defects of the PV Modules Bristile Roofing will retain details of all installed projects and notify the project owners by email, phone or post with the details that were provided at the time of installation. The notification will include details of how the defects will be remediated.

## 12. Validity

This “Limited Warranty for PV Modules” is valid for all MODULES installed by THE COMPANY OR THE COMPANIES authorised partners. THIS “LIMITED WARRANTY FOR PV MODULES” WILL BECOME NULL AND VOID IF THE MODULE IS TRANSFERRED FROM AUSTRALIA, WITHOUT WRITTEN PERMISSION FROM THE COMPANY ALL CUSTOMERS, DIRECT AND INDIRECT, ARE HEREBY NOTIFIED OF SUCH POTENTIAL NULLIFICATION.

### **13. Contact**

In case of questions regarding our products, quality, performance contact us at:

#### **Bristile Roofing East Coast PTY LTD**

Add: 738-780 Wallgrove Rd, Horsley Park NSW 2175

Tel: 1300 274 784

Email: info@bristileroofting.com.au.

a) All claims made against this warranty must be submitted in writing and either posted to either PO Box 3040 Darra QLD 4076 or emailed to warrantyclaims@bristile.com.au

To validate a warranty claim the claimant must notify the Company of the issues with the product, allow the Company reasonable access to the property to inspect and test any roof tiles being claimed under this warranty to assess the nature of the issues with the product.

b) If you are not happy with the outcome of the warranty claim or have a complaint please contact THE COMPANY via the details in clause 13.

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## *Specifications*



### ***BREC45S-Rab Bristile Roofing***

***10 Cells Monocrystalline***

***45W Power Output Peak***

***16% Maximum Efficiency***

***0~+3% Power Output Guarantee***

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**Solar cell:** High efficiency multicrystalline solar cell. Even if under the weak light, the solar module can produce maximum power output.

**Tempered glass:** Anti-reflecting coating and high transmission rate glass increasing the power output and mechanical strength of solar module.

**EVA and TPT:** Using high quality EVA and TPT to prevent destroying and water.

**Junction box:** Multi-functional and water-proof junction box.

Good performance of preventing from atrocious weather such as wind and hails.

Resisting moisture and etching effectively, not effected by geology.

**Certificates issued by international authorities:** ISO Quality Management system, CE, TUV (IEC61215 and IEC61730).

### 1. Mechanical Characteristics

<b>Cell Size (mm)</b>	156 x 156
<b>No. of cells</b>	10(2 x 5)
<b>Module Size (mm)</b>	823 x 340 x 61
<b>Module Weight (KG)</b>	11.2

### 3. Construction Materials

<b>Front Glass</b>	3.2mm, Low Iron, Tempered Glass
<b>Junction Box</b>	IP 67 Rated (Black)
<b>Output Cables</b>	TUV 1x4mm <sup>2</sup> , length: 600/700mm
<b>Connector</b>	Hengda PV-ST01
<b>Encapsulation Material</b>	EVA (0.45±0.03mm thickness)
<b>Back Foil</b>	Black TPT (0.32±0.03mm thickness)
<b>Fixing Adhesive</b>	Silicone Sealant (Black)

### 4. Temperature Coefficient

<b>Power Tolerance</b>	0~+3%
<b>Temperature Coefficient of Pmax</b>	(-0.41±0.05)%/°C
<b>Temperature Coefficient of Voc</b>	(-0.34±0.02)%/°C
<b>Temperature Coefficient of Isc</b>	(0.05±0.01) %/°C
<b>NOTC (°C)</b>	(47±2) °C

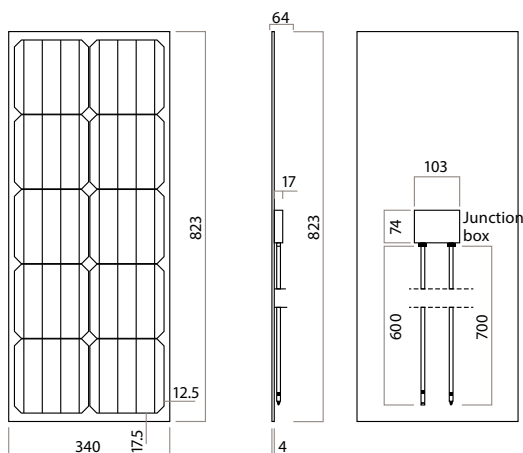
### 2. Packaging Characteristics

<b>Number of modules per pallet</b>	22
<b>Number of pallets per 20' /40' / 40HC container</b>	24/48/60
<b>Packaging box dimensions (mm)</b>	1450 x 900 x 560
<b>Box Weight (KG)</b>	290

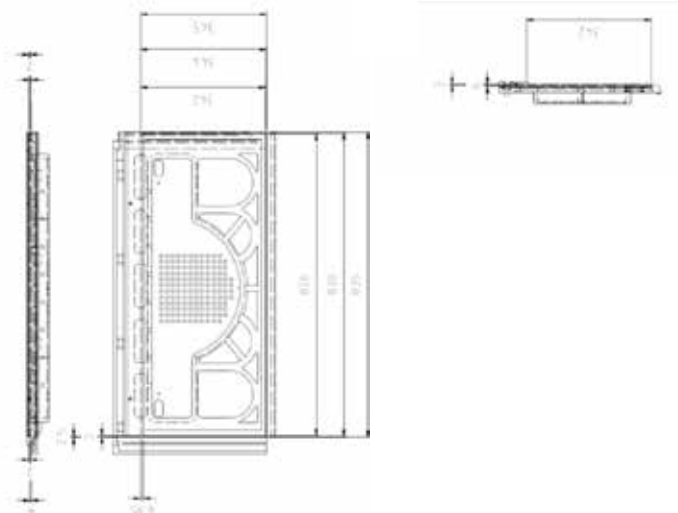
### 6. Operating Conditions

<b>Max. system voltage</b>	1000VDC (IEC)
<b>Max. system fuse rating (A)</b>	10
<b>Operating temperature (°C)</b>	-40~85
<b>Max. static load, front (e.g., snow) pa</b>	2400/pa
<b>Max. static load, back (e.g., wind) pa</b>	2400/pa

### 5A. Module Diagram (without frame)



### 5B. Frame Diagram (no module)

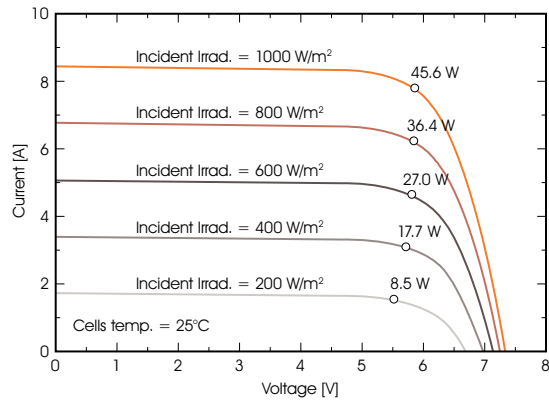
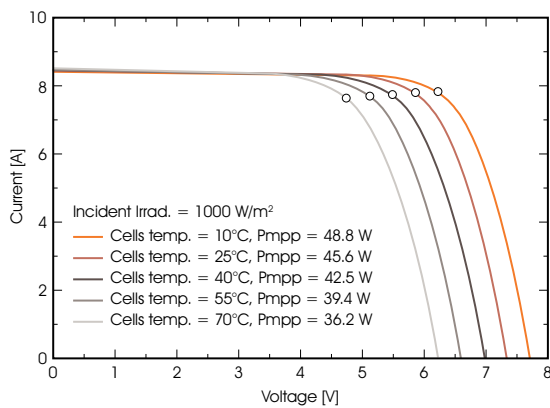


## 7. Electrical Parameters at Standard Test Conditions (STC)

Module type	BREC45S-Rab
Rated Maximum Power (Pmax/W)	45
Maximum Power Voltage (Vmp/V)	5.22
Open-circuit Voltage (Voc/V)	6.41
Maximum Power Current (Imp/A)	8.62
Short-circuit Current (Isc/A)	9.09
Module Efficiency (%)	16.0

STC: Irradiance 1000W/M<sup>2</sup> Module Temperature: 25°C AM=1.5

## 8. IV Curve



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This publication summarizes product warranty and specification, which is subject to change without notice.



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The product images shown in this brochure give a general indication of product colour for your preliminary selection. Bristile Roofing recommends all customers see actual product samples at a selection centre prior to making final selections.

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