

## Warranty conditions for thin-film solar modules of Bosch Solar Energy AG

Bosch Solar Energy AG provides a product warranty (A) and a performance warranty (B). The product warranty covers the material and workmanship of the module, whereas loss of performance (degradation) and minimum output of the module are exclusively the object of the performance warranty. In Section C: Warranty Conditions are the conditions laid down for both warranties.

### A: Product warranty

Bosch Solar Energy AG (in the following “warranty provider”) provides a warranty to the final customer (consumer) under the conditions stated herein for a period of five years from the delivery date (ex works or warehouse) that the modules are free of defects in material and workmanship.

The product warranty applies exclusively to thin-film solar modules of a-Si, a-Si plus,  $\mu\text{m-Si}$  and  $\mu\text{m-Si}$  plus series.

### B: Performance warranty

Bosch Solar Energy AG, Erfurt, provides an independent, voluntary warranty to the final customer for the series a-Si, a-Si plus,  $\mu\text{m-Si}$  and  $\mu\text{m-Si}$  plus thin-film solar modules which have been manufactured by the warranty provider under the following conditions:

Bosch Solar Energy AG guarantees that the thin-film solar modules will

- a) within a period of 12 years from the date of delivery (ex works or warehouse) deliver at least 90% and
- b) within a period of 25 years from the date of delivery (ex works or warehouse) deliver at least 80%

of the minimum performance declared in the data sheet or on the product label affixed on each module. The minimum performance is calculated from the respective power class in Wp (e.g. 80 Wp) less the lower sorting tolerance indicated (e.g. +/- 2.5 Wp, i.e. 80 Wp – 2.5 Wp = 77.5 Wp). The module performance may be subject to seasonal fluctuations. The minimal

performance therefore refers only to the annual average.

### C: Warranty conditions

#### 1. General

- 1.1 Warranties are granted only to the end customer. Warranties do not apply to distributors, and installation companies or second-hand purchasers of the modules. End customers are all parties who have purchased thin-film solar modules for their own needs (not for the purpose of resale) or who have purchased a building on which the modules were first installed. The module must be a part of a solar system in which it was first operated. Warranties of Bosch Solar Energy AG shall not apply to modules which have been dismantled and re-installed, except for the purposes of repair, or have been used for another purpose.
- 1.2 This warranty shall exist independently of legal warranty claims against the vendor of the modules and irrespective of non-contractual claims. Such claims shall be neither limited nor established by this warranty as far as there is no direct purchase contract with Bosch Solar Energy AG.  
  
This warranty is an independent, voluntary and complementary service provided by Bosch Solar Energy AG to the end customer. It does not affect the quality agreements between vendor and purchaser.
- 1.3 Expenses for dismantling, testing, disposal, transportation, installation and reinstallation of the modules or individual components of these modules within the scope of this voluntary warranty are to be borne by the end customer
- 1.4 In the event that these warranty conditions deviate from the specifications set forth in the data sheet, these warranty conditions shall prevail.
- 1.5 This product warranty shall apply within the European Union or within a third coun-

try in which the module was first placed on the market by Bosch Solar Energy AG. Claims arising from or in connection with this warranty must be filed in writing within the applicable warranty period. No extension of the warranty period, regardless of legal basis, will be permitted.

## 2. Disclaimers / Liability limitations

2.1 This warranty is valid for normal and correct use and installation, and only under normal operating conditions. The warranty assumes that the performance of the thin-film modules has not been reduced (in the assessment of Bosch Solar Energy AG) by actions or events outside the sphere of influence of Bosch Solar Energy AG, in particular:

- Modifications/damage as a consequence of force majeure (storms, hail, fire, power outage, lightning, flooding, snow damage, avalanches, frost, earthquakes, tornadoes, volcanic eruptions, landslides, plagues of insects and other detrimental effects by animals, acts of war, etc.) or damage caused by third parties due to vandalism and theft,
- unprofessional installation, commissioning and operation not in conformance with current installation manual<sup>1</sup>,
- use on mobile units such as vehicles and ships,
- impairment through external influences (dirt, smoke, salt, chemicals and other impurities),
- interconnection with modules made by other manufacturers,
- defects of the system into which the module is integrated,
- insufficient ventilation. In particular the maximum temperatures according to the operating manual may under no circumstances be exceeded.

2.2 Furthermore, warranty claims will only be accepted if the thin-film modules have been used according to their intended purpose and do not exhibit any signs of excessive wear and tear or external damage not reconcilable with normal use. The serial number and/or type label must not be damaged. All installation and operating

instructions must have been closely followed. Adherence to the safety and warning notes contained therein and the permissible operating and installation conditions specified on the data sheet is a prerequisite for the acceptance of warranty claims.

2.3 The total scope of liability of Bosch Solar Energy AG shall be limited to the purchase price of the defective product. The liability of Bosch Solar Energy AG does not cover indirect damage, loss of profits, consequential or indirect damage, any loss of electrical capacity and/or remuneration by an energy supply company.

2.4 Claims under this warranty may not be transferred to a third party.

## 3. Specific performance

3.1 In case of a warranty claim, Bosch Solar Energy AG shall, at its own discretion, replace the module with a new module of the same type, remedy the defects or refund the current market value of the module. The current market value shall be derived from the purchase price less an annual linear depreciation based on an anticipated useful life of 25 years. Should the type of module no longer be produced at the time of the warranty claim, Bosch Solar Energy AG shall be permitted to supply another type of thin-film solar module (different size, shape, colour and/or capacity). In this case, Bosch Solar Energy AG shall be entitled to demand the difference between the gross value of the replacement module and the current market value of the module to be replaced. Modules thus replaced shall become the property of Bosch Solar Energy AG.

3.2 No other claims shall be derived from this warranty.

3.3 For modules newly supplied or repaired, only the remaining time of the original warranty period shall apply.

<sup>1</sup> Current installation manual available at [www.bosch-solarenergy.com](http://www.bosch-solarenergy.com)

**4. Implementation/Enforcement of the performance warranty**

4.1 All warranty claims must be submitted without delay in writing to

Bosch Solar Energy AG  
Wilhelm-Wolff-Straße 23  
99099 Erfurt

4.2 The prerequisite for the acceptance of warranty claims is submission of the warranty certificate along with the original bill of sale to Bosch Solar Energy AG.

4.3 The end customer must also submit written proof that the module performance has fallen below the minimum guaranteed by Bosch Solar Energy AG. This evidence must be provided in the form of the certified test results of an accredited expert or institution (e.g. Fraunhofer Institute).

Module performance shall be measured by Bosch Solar Energy AG under standard test conditions (25°C cell temperature, irradiation 1,000 W/m<sup>2</sup> and spectrum AM 1.5). Output will be measured in each case at the ends of the pre-assembled connector on the rear of the module. The end customer must maintain the standard test conditions while producing evidence that the performance has fallen below the guaranteed minimum performance.

Bosch Solar Energy AG reserves the right to verify the shortfall in performance. If the test body commissioned by Bosch Solar Energy AG comes to the conclusion that the divergence is permissible or that no divergence exists, Bosch Solar Energy AG shall be entitled to claim a refund of the performance test costs.

4.4 Claims arising from or in connection with this warranty must be filed in writing within the applicable warranty period as well as within three months of the occurrence of the event giving rise to the claim. No consideration will be given to late complaints. The determining factor for adherence to the deadline shall be timely receipt.

4.5 All legal disputes arising from this warranty shall be governed by the law of the Federal Republic of Germany. The UN Sales Convention (CISG) and conflict of law rules do not apply.

4.6 The customer shall only be entitled to return modules with the prior written consent of Bosch Solar Energy AG.

These warranties shall be applicable to thin-film modules delivered between April 1, 2010 and the day new warranties become effective. The previous provisions shall be applicable to modules delivered prior to April 1, 2010.

Erfurt, April 1, 2010



**Holger von Hebel**  
Chief Executive Officer



**Peter Schneidewind**  
Chief Sales Officer