

Warranty conditions for thin-film solar modules of Bosch Solar Thin Film GmbH

Bosch Solar Thin Film GmbH 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 the conditions are laid down for both warranties.

A: Product warranty

Bosch Solar Thin Film GmbH (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 (works or warehouse of Bosch Solar Thin Film GmbH) that the modules are free of defects in material and workmanship. The product warranty applies exclusively to thin-film solar modules of the a-Si, a-Si plus, $\mu\text{m-Si}$ and $\mu\text{m-Si}$ plus series.

B: Performance warranty

Bosch Solar Thin Film GmbH, Erfurt, provides an independent, voluntary warranty to the final customer for the thin-film solar modules of the a-Si, a-Si plus, $\mu\text{m-Si}$ and $\mu\text{m-Si}$ plus series manufactured by it under the following conditions:

Bosch Solar Thin Film GmbH guarantees that the thin-film solar modules will

- a) within a period of 12 years from the date of delivery (works or warehouse of Bosch Solar Thin Film GmbH) deliver a performance of at least 90% and
- b) within a period of 25 years from the date of delivery (works or warehouse of Bosch Solar Thin Film GmbH) deliver a performance of at least 80%

of that specified in the data sheet or product label attached to the respective module. Minimum performance shall be calculated from the respective power class in Wp (e.g. 80 Wp) less the given lower sorting tolerance (e.g. +/- 2.5 Wp, i.e. $80 \text{ Wp} - 2.5 \text{ Wp} = 77.5 \text{ Wp}$).

C: Warranty conditions

1. General

1.1 Warranties are granted only to the final customer. Warranties do not apply to distributors, and installation companies or second-hand purchasers of the modules. Final 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. The module must be a part of a solar system in which it was first operated. Warranties of Bosch Solar Thin Film GmbH shall not apply to modules which have been dismantled and reinstalled, 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, 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 Thin Film GmbH. This warranty is an independent, voluntary and complementary service of the warranty provider to the final customer. It does not affect the quality agreements between vendor and purchaser.
- 1.3 Expenses for dismantling, testing, disposal, transportation, installation and re-installation of the modules or individual components of these modules within the scope of this voluntary warranty are to be borne by the final 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 country in which the module was first placed on the market by Bosch Solar Thin Film GmbH. 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 Thin Film GmbH) by actions or events outside the sphere of influence of Bosch Solar Thin Film GmbH, 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.¹
 - 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 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.

¹ Current installation manual available at www.bosch-solarenergy.de

- 2.3 The total scope of liability of Bosch Solar Thin Film GmbH shall be limited to the purchase price of the defective product. The liability of Bosch Solar Thin Film GmbH 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 Thin Film GmbH 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 Thin Film GmbH shall be permitted to supply another type of thin-film solar module (different size, shape, colour and/or capacity). In this case, Bosch Solar Thin Film GmbH 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 Thin Film GmbH.
- 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.

4. Implementation/Enforcement of the performance warranty

- 4.1 All warranty claims must be submitted without delay in writing to
Bosch Solar Thin Film GmbH
Sonnentor 2
99098 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 Thin Film GmbH.
- 4.3 The final customer must also submit written proof that the module performance has fallen below the minimum guaranteed by Bosch Solar Thin Film GmbH. 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 Thin Film GmbH under standard test conditions (25°C cell temperature, irradiation 1,000 W/m² 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 final customer must maintain the standard test conditions while producing evidence that the performance has fallen below the guaranteed minimum performance.

Bosch Solar Thin Film GmbH reserves the right to verify the shortfall in performance. If the test body commissioned by Bosch Solar Thin Film GmbH comes to the conclusion that the divergence is permissible or that no divergence exists, Bosch Solar Thin Film GmbH 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 Thin Film GmbH.

These warranties shall be applicable to thin film modules delivered between 1 October 2009 and the day new warranties become effective. The previous provisions shall be applicable to modules delivered prior to 1 October 2009.

Erfurt, 1 October 2009



Dirk Biermann
Managing Director
Bosch Solar Thin Film GmbH



Dr. Christian Koitzsch
Managing Director
Bosch Solar Thin Film GmbH