



通威太阳能企业标准

晶体硅半片光伏组件有限质保书

Crystalline Silicon Half-cell PV Module Limited Warranty

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Preface

This procedure is formulated in accordance with the ISO9001 Quality Management System Requirements, ISO45001 Occupational Health and Safety Management System Requirements and Use Guide, ISO14001 Environmental Management System Requirements and Use Guide, laws and regulations, industry standards and the actual management situation of the company. Applicable to the company management system operation guidance.

This document is proposed and drafted by Tongwei Solar Module R & D Department .

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Revised Resume			
version	Content of Revision	Person of revision	Effective date
A0	Create	Wang Tianqi	2022-11-16
A1	Revise contact information in Clause 8.1 and adjust font and format of this document. Correct the translation mistake: revise the translation of last sentence in Clause 8.3 to keep it in accordance with Chinese version.	Li Xuechun	2023-05-24
A2	Modify 4 " Twelve-Years Limited quality guarantee" to " Product materials and process quality guarantee" and. 4.1 Add HIT product materials and process quality guarantee. Add 5 Limited power Output warranty. 5.2 Half piece double glass modules: " HJT Half-cell Monocrystalline double sided double glass product".	Ji wei	2023/08/21
A3	Modification 5 Limited power output warranty, "HJT single crystal half piece double-sided double-glass product".	Ji wei	2023/11/22

会签部门

营销部	质量管理部	产品开发部	计划运营管理部	采购部	组件质量部	工艺整合部	基地工艺部
邱新 薛青松 李岩	陈明辉	夏正月	谢俊杰	朱杏善	马宏 刘冲 王新星 张计传	孙俊	田原 Robin 赵明 陈如意 宋杰 房雨

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Crystalline silicon half-cell PV module limited warranty

1. Purpose

This limited warranty shall Tongwei Solar (Hefei) Co., Ltd. (hereinafter referred to as the "Tongwei") for the purpose of for personal use and buy installation below rules of crystalline silicon half-cell series photovoltaic modules (hereinafter referred to as the "modules") of the end user (hereinafter referred to as the "buyer"), promises to provide limited warranty as described below (hereinafter referred to as the "limited warranty").

2. Scope

This limited warranty is applicable to Grade A modules, not to degraded or scrapped modules.

3. Commencement Date of Warranty

It will be effective from the day of installation or the 90th day (natural day) after the delivery of the Tongwei modules, whichever occurs earlier.

4. Product materials and process quality guarantee.

4.1 TOPCon, PERC products, Tongwei warrants that the module will not malfunction or fail to operate due to design, material, process or manufacturing defects within 12 years from the valid date. HJT Products, Tongwei warrants that the module will not malfunction or fail to operate due to design, material, process or manufacturing defects within 15 years from the valid date.

4.2 Defects in module appearance (including but not necessarily limited to bruise, scratch, stain, mechanical wear, rust, mold, etc.) or other changes which occur after the delivery from Tongwei to the Buyer are not guaranteed in this limited warranty unless defects or changes mentioned above are against the provisions of Article 5, "Limited Warranty on Power Output".

5. Limited Warranty on Power Output

Tongwei also undertakes that the loss of power output, conforming to the comparison between the minimum tolerance which is specified in the label of modules and the practical peak value which is figured out under Standard Test Conditions(STC).

5.1 Half-cell single glass modules

PERC Half-cell Monocrystalline Module: 25 years limited warranty on Power Output, the first year of power

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loss will be within 2%, and it will maintain loss within 0.55% annually from the 2nd to the 25th year from the effective date of warranty. The last year of power output is not less than 84.8%.

TOPCon Half-cell Monocrystalline Module: 30years limited warranty on Power Output, the first year of power loss will be within 1%, and it will maintain loss within 0.4% annually from the 2nd to the30th year from the effective date of warranty. The last year of power output is not less than 87.4%.

5.2 Half-cell double glass modules

PERC Half-cell Monocrystalline Module: 30 years limited warranty on Power Output, the first year of power loss will be within 2%, and it will maintain loss within 0.45% annually from the 2nd to the 30th year from the effective date of warranty. The last year of power output is not less than 84.95%.

TOPCon Half-cell Monocrystalline Module: 30 years limited warranty on Power Output, the first year of power loss will be within 1%, and it will maintain loss within 0.4% annually from the 2nd to the 30th year from the effective date of warranty. The last year of power output is not less than 87.4%.

HJT Half-cell Monocrystalline Module: 30years limited warranty on Power Output, the first year of power loss will be within 1%, and it will maintain loss within 0.375% annually from the 2nd to the30th year from the effective date of warranty. The last year of power output is not less than 88. 12%.

5.3 peak power

The peak power is the maximum power of modules measured under standard test conditions. Standard test conditions are: spectrum AM1.5, light intensity 1000W/m², temperature 25±2°C. Measurements According to IEC 61215, the tests are measured at the junction box terminals. The calibration and test standards for the Tongwei modules are valid on the date of manufacture of the module. The calibration standards are in accordance with the standards approved by the international organization.

6. Repairs, replacements or refunds

6.1 If a module has a severe appearance defect or a power loss because of itself through analysis exceeding the guaranteed value within limited product warranty or limited power output warranty, or in the case of the buyer's request by the domestic or international well-known third-party testing organization (the buyer and Tongwei confirmed the choice of the common) identified as Tongwei module causes, Tongwei will choose any of the following relief measures:

a) Tongwei has the right to choose the net value of the defective modules or the current market module price refunded to the buyer, the so-called defective modules of the net value of the modules purchased at the time on the basis of the first deduction of 16% depreciation, subsequent annual deductions 3.5% depreciation, depreciation is calculated from the date of the warranty.

b) Free repair or replacement of defective modules, and to provide the initial sale of the delivery point of free delivery service, the modules and parts to be replaced are owned by Tongwei.

6.2 The above remedies are the sole and exclusive remedies provided by the Tongwei limited warranty and shall not be liable for any special, indirect, consequential, incidental or consequential damages (including loss of

production, loss of profits, loss of goodwill, loss of business reputation or delay losses), the provisions of this exclusion apply irrespective of whether the claim for loss is based on a contract, assurances, negligence or strict liability.

6.3 If Tongwei chooses to take remedial measures for free repair or replacement of defective modules, Tongwei undertakes insurance, transportation (other than air transport), customs clearance and other related expenses arising from the return of defective modules to Tongwei and transportation of repaired or replaced modules to the buyer. The buyer may refund the defective modules to Tongwei after the written consent of Tongwei. If the buyer prepaid the above-mentioned expenses, the buyer shall provide the invoice to Tongwei for the related expenses, and Tongwei shall pay the cost to the buyer; Tongwei does not accept any returned defective modules without the written consent of Tongwei. If, at the time of the claim, Tongwei has ceased to produce modules of the same type as the defective module, Tongwei may provide other types of modules that meet the requirements of the purchaser module. All costs incurred during the removal or installation of the modules are at the buyer's option.

6.4 Tongwei repair or replacement defective modules, limited product warranty and limited power output warranty is not extended or renewed, the warranty period for repair or replacement modules is the warranty period remaining for the buyer to purchase the module.

6.5 The buyer is entitled to claim under the terms of the warranty, if a problem with a number of claims, Tongwei in accordance with the provisions of a compensation, that is resolved as a result of this problem arising from all applicable claims.

7. Liability exemption and limitation

Limited Warranty above shall not be applied to these products under any circumstances as follows:

- a) No payment received by Tongwei;
- b) Only Grade A modules (not including Grade S1, Grade S2 and the Scrap) shall be guaranteed.
- c) Failure to comply with all requirements of the Tongwei Installation Manual;
- d) The type, nameplate, or bar code of the module is altered, erased or unable to be recognized (except results caused by any act or omission of Tongwei);
- e) The installation location or operating conditions of the modules are not within the scope specified in the Tongwei Installation Manual and are not approved in writing by Tongwei. Such as the installation on vehicles, ships and other mobile platforms, or in the ocean, desert and other environments;
- f) The building where the module is placed is defective;
- g) The module is subject to any of the following conditions: intentional destruction, unauthorized modification, connection and opening, the repair with unauthorized spare parts, accidents, chemical effects, etc. and other events which beyond the reasonable control of Tongwei;
- h) Pressure exceeds the maximum system voltage or surge;
- i) The usage of modules is in a manner that infringes Tongwei or intellectual property of any third-party

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rights (such as patents for inventions, trademarks), imports in parallel;

j) The service of modules is considered that it's provided by unqualified technicians according to the relevant laws and regulations of installation.

8. Claims procedure, notice period, warranty performance

8.1 When any claim on Limited Warranty shall be founded, please notice Tongwei or its authorized distributor(s) in writing with claims, description of defective modules, bar code and nameplate picture, a copy of the commercial invoice and the module delivery date. Tongwei customer service center contact information:

Tongwei Solar (Hefei) Co., Ltd.

Address: No. 888, Changning Avenue, High-tech District, Hefei City, Anhui Province, China

Post code: 230088

Customer Service Number: 4000566888

After-sales E-mail: twcustomerservice01@tongwei.com

Web: www.tw-solar.com

8.2 Any claim for the Limited Warranty must be made within 30 days (natural day) from the date on which the breach is found.

8.3 In case of any dispute in terms of warranty-claims, a first-class domestic or international testing institute shall be entrusted by both parties upon mutual consents in order to provide third party verification and comments which are final, decisive, binding and compulsory in accordance with procedure mentioned in Limited Warranty. All fees and expenses incurred in the adjudication process shall be borne by the losing party, unless otherwise provided in the judgement.

8.4 If the result of the ruling is a defect in the Tongwei module, it is covered by this limited warranty, Tongwei shall be compensated in accordance with article 6 of the remedies; If the result of the ruling is a defect of the Tongwei module, which does not fall within the scope of this limited warranty, Tongwei does not bear any compensation, including but not limited to insurance, transportation, customs clearance and any other charges incurred for the return of defective modules, and no obligation to repair, replace or refund defective modules.

8.5 When warranty period found that is not due Tongwei module's defects or module beyond the warranty period need for repair and replacement, the buyer may contact the Customer Service Center, advisory the cost of modules associated repair services.

9. Transfer of Rights

This Limited Warranty is applied to the original end user and the product remains to be installed at the original site, and on the other hand the warranty shall be adapted to subsequent owners when the owner holds a legal certification of inheritance or transfer.

10. Severability

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If a section, provision or clause of this Warranty, or the application thereof to any person or circumstance, is held invalid, void or unenforceable, such shall not affect and thus shall leave all other sections, provisions, clauses or applications under this Warranty severable, and therefore validly binding.

11. Force majeure

For any unforeseen events due to fire, flood, blizzard, hurricane, lightning, public policy changes, terrorism, war, riots, strikes, lack of appropriate or sufficient labor, materials or production capacity, technical or physical events, and Tongwei's uncontrollability Force majeure, such as incidents, caused Tongwei to fail to perform or delay the performance of its obligations under this limited warranty. Tongwei shall not be liable to the buyer or any third party in any way.
