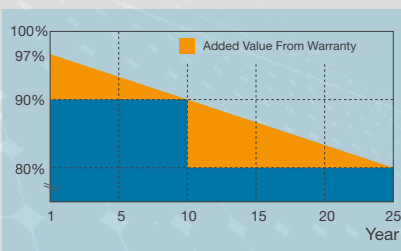


SF QUALITY-CONTROL-SYSTEM



- 10 years product warranty of the manufacturer
- 25 years linear performance warranty of the manufacturer
- Re-insurance of the performance warranty
- certificates IEC/EN 61215, IEC/EN 61730-1,2, MCS, UL,CE
- all modules are plus tolerated
- very good low irradiance performance, very good temperature coefficient
- independent quality control of each SUNfarming container by TÜV Rheinland
- full quality control by SUNfarming and the manufacturer during the production process
- all materials are of the highest quality: high transmission low iron tempered glass with strong mechanical resistance, TPT-tedlar foil, EVA foil and anodized aluminum frame
- Junction boxes with fully waterproof plug-in (MC4 compatible)



SUNfarming Quality Control System

- SUNfarming quality controllers regularly check the production and do final inspection of the modules in our partner factories
- In cooperation with TÜV Rheinland and the PI Berlin, SUNfarming analyzes randomly each container and performs additional quality tests
- through comprehensive and detailed online monitoring monitors SUNfarming ensures long term quality
- insured transport with a German forwarder ex work to final destination

1. Flashtest (STC)

- the flash test measures the maximum performance of the module under optimal conditions (Standard Test Conditions)
- SUNfarming only purchases modules with plus tolerances
- SUNfarming randomly takes out test modules of each SUNfarming container and undertakes STC-performance tests in external test institutes like the TÜV & PI
- in each partner factory, SUNfarming has a reference module calibrated by TÜV for the calibration of the manufacturers flash machine

2. Electroluminescence Inspection (EL)

- SUNfarming ensure that there are 100% double EL inspections in the production lines before and after lamination
- additionally SUNfarming regularly undertakes EL tests in independent test institutes

3. Low irradiance (LI)

- SUNfarming pays attention that the low irradiance performance of the modules
- SUNfarming additionally undertakes regularly low irradiance tests in external test institutes so that the modules not only perform well under 1,000W irradiation, but also bring optimal yields at 700 and 400W irradiation

4. EVA gel content test

- SUNfarming regularly determines the degree of EVA gel content by an external test institute to make sure the cross-linking between of the EVA is long-lasting
- the gel content should be above 67%
- the gel content of SUNfarming quality modules is above 75%

5. Potential Induced Degradation Test (PID)

- SUNfarming exclusively works with manufacturers of PID-free modules
- additionally SUNfarming regularly has PID-Tests in independent test institutes done

6. Peel Test

- SUNfarming regularly undertakes peel tests by external test institutes to check the force which is necessary to separate the encapsulation material from the other materials like cell, glass, back sheet

7. Mandatory certificates/ warranties for SUNfarming Partnership

- IEC 61215, IEC 61730, UL 1703, MCS and CE certification
- ISO9001: 2008 Quality management system
- ISO14001: 2004: Standards for Environmental Management System
- Member of PV-Cycle
- Re-insurance of the linear performance warranty



8. Additional certificates

- additional certification by TÜV Rheinland for ammonia resistance and salt mist corrosion resistance
- increased maximum surface load capacity of 5,400 Pa certified by TÜV Rheinland