POLYCRYSTALLINE SOLAR MODULES

Q.PRO-G2

Proven performance and higher output in Australian conditions

Q.CELLS

CLAIMING LEADERSHIP MEANS PROVING IT
Q.CELLS - Q IS FOR QUALITY

German engineering and local support. With a solar PV system from Q.CELLS you purchase peace of mind.

Whether you want to add value to your home, reduce your carbon footprint, become independent of utilities or simply want to reduce your quarterly electricity bill - a solar system is the answer.

The next question is how to decide which solar modules to choose. The key points to ask are: how much electricity do the modules produce (kWh/kWp) to maximise your savings; are the modules tested by reputable third parties for safety, reliable output and quality; are the modules produced by a PV technology leader with vast global expertise; and does production occur in a fully automated facility with 100 % quality control.

Who is Q.CELLS? Since our incorporation in 1999, Q.CELLS turned into one of the biggest manufacturers of solar cells globally within a few years.

At our headquarters in Thalheim, Germany, and at our factory in Selangor, Malaysia, we develop high quality solar cells and modules to deliver on our promise of higher electricity output every time. We know that only high-quality modules with the best technologies can become reliable energy generators, thus making our customers successful electricity producers. That's why our focus is always on reliablity, quality and performance - and 7 world records in efficiency over the past 12 months alone are proof.

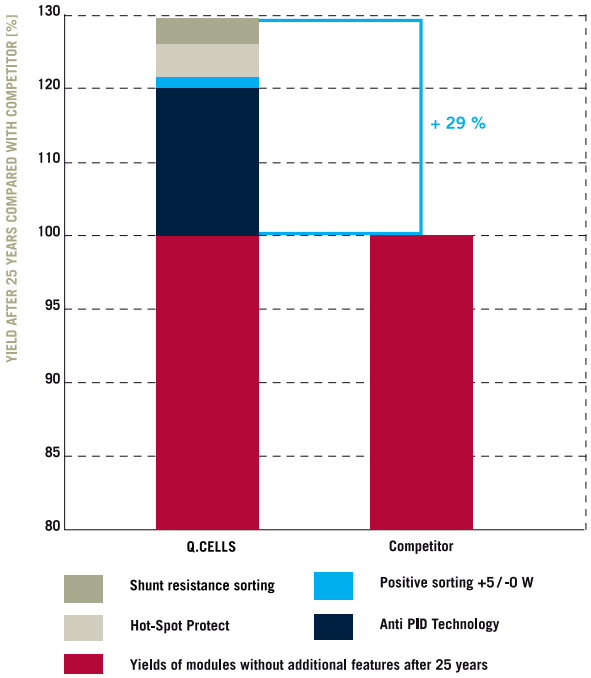
Q.CELLS TRIPLE YIELD SECURITY SEAL FOR UP TO 29 % MORE ELECTRICITY OUTPUT

More output thanks to the unique Q.CELLS Triple Yield Security Seal.

A Q.CELLS PV system produces more output over its lifespan. This means a higher return on investment for you and more money in your pocket.
How do we achieve this? By introducing the Q.CELLS Triple Yield Security Seal which highlights how we tackle three common problems:

- Potential Induced Degradation (PID),
- Hot Spots and
- Consistency in manufacturing for continuous quality control

The result is up to 29 % more electricity output after 25 years.

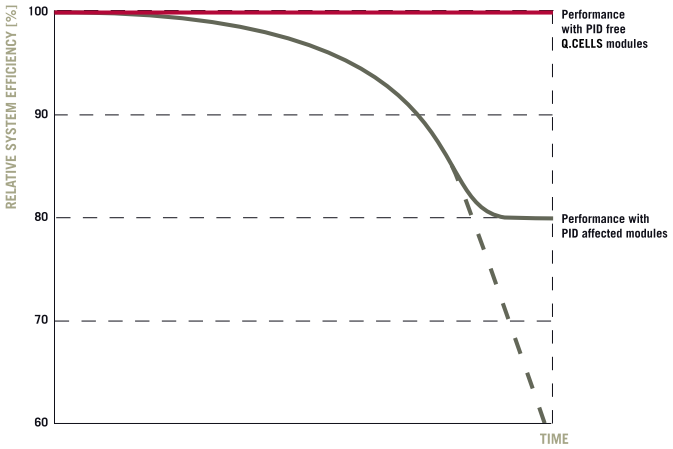


RELIABLE OUTPUT YEAR AFTER YEAR
THANKS TO INDUSTRY LEADING ANTI-PID TECHNOLOGY

With Q.CELLS there is no need to worry about output losses due to PID.

Potential-Induced Degradation (PID) can cause yield losses of more than 20 % (Source: Photon International Magazine, Jan-2011). PID is a progressive phenomenon and if left undetected output losses can greatly exceed 20 % over the life of the system. Our 200 strong R&D team of scientists and engineers at our headquarters in Thalheim, Germany, have researched PID for over 2 years in our own Module Testing Facility which is the largest in Europe. By optimising our cell production processes to eleminiate PID on the cell level, we were the first company to eliminate PID and therefore have once again proven our technology leadership.

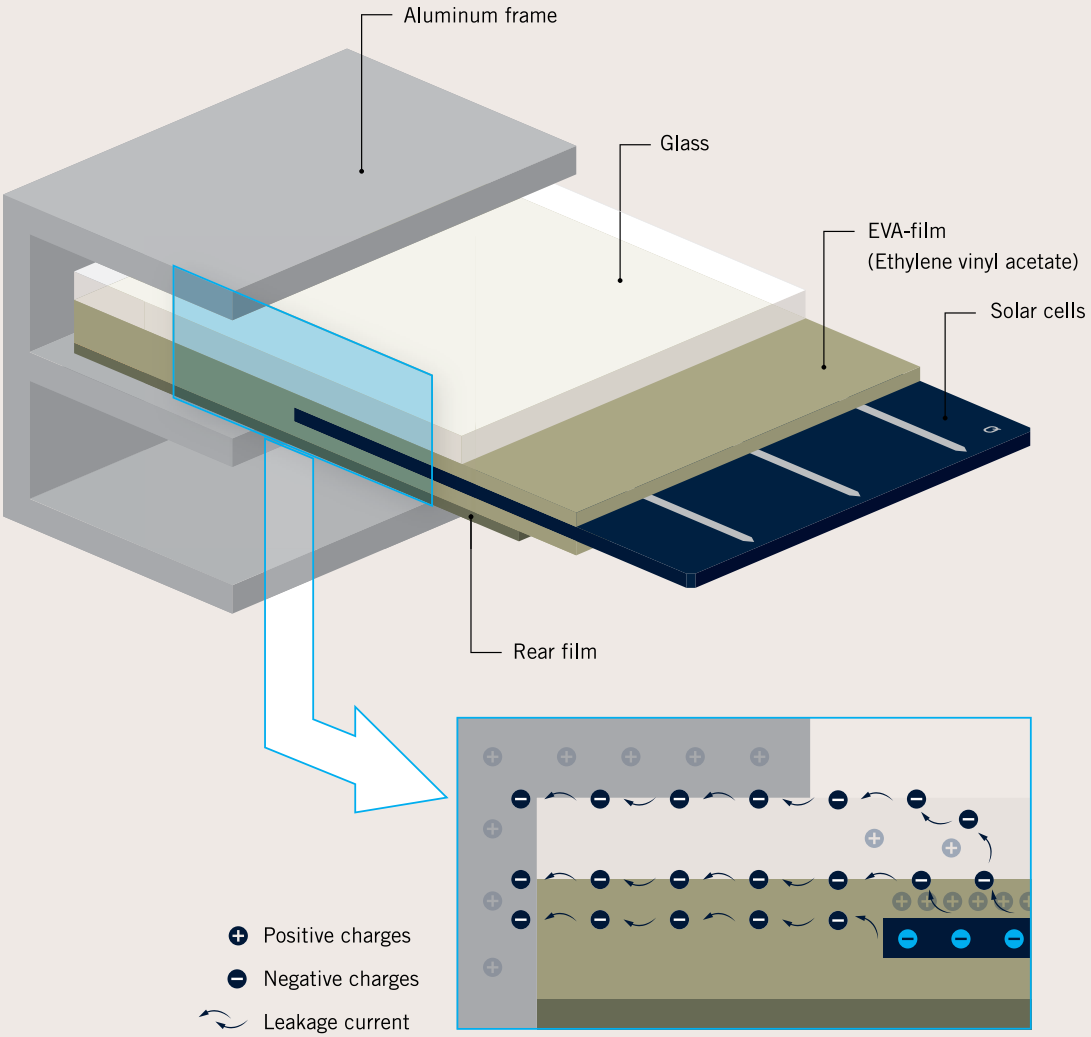
MODEL CALCULATION FOR CRYSTALLINE MODULES



Module performance drops by more than 20 % for PID affected modules

HOW PID CAN AFFECT A SOLAR MODULE

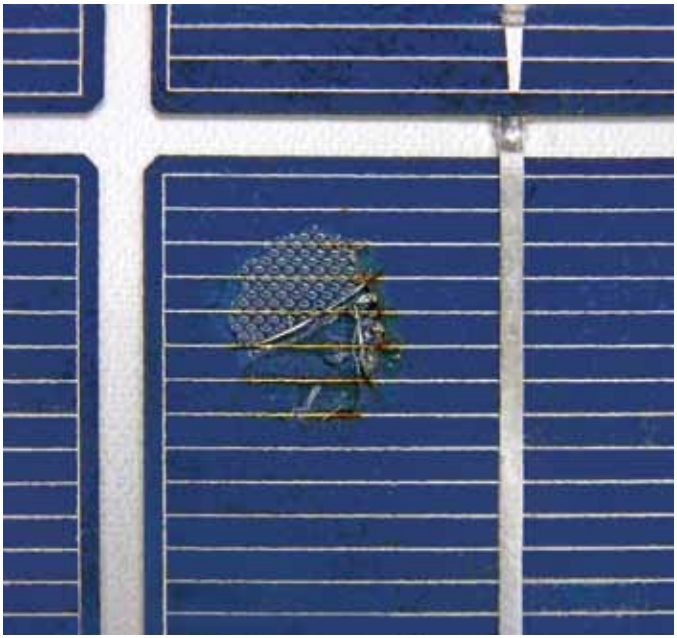
This layered structure of a crystalline solar module shows how the standard system architecture of PV installations exposes solar modules to bias voltages of several hundred volts, giving rise to leakage currents - or in other words Potential Induced Degradation - between solar cells and module frames via the encapsulation materials.



Q.CELLS HOT SPOT PROTECT
NO MORE POWER LOSSES DUE TO HOT SPOTS

Hot spots are a widely known phenomenon. During the production process, solar cells can be subject to stress which can cause defects not detectable by the naked eye. Under certain conditions, such as partial shading, those defects can heat up to 250 °C. These extremely high temperatures within a module can cause substantial power losses and – in the worst case – even complete module destruction.

As part of the Triple Yield Security Seal requirements, our engineers not only test modules under extreme climatic conditions twice and in some cases even three times, but our fully automated production processes ensure that all damaged cells and modules are removed according to our industry-leading quality control. This means, that Q.CELLS solar cells and modules are 100 % checked for hot spots and the risk of a resulting module fire is eliminated.

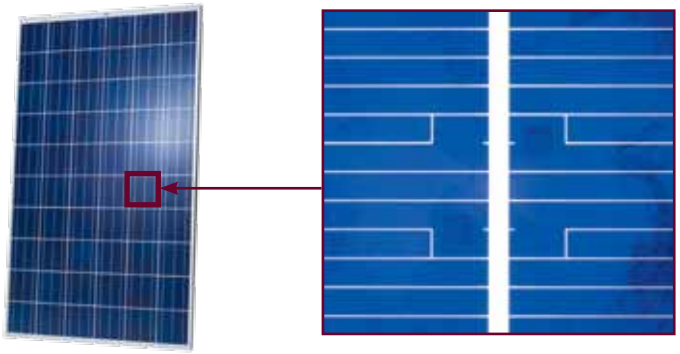


Hot spots can lead to complete module destruction

- Our modules are checked in our own Module Testing Facility – which is the largest in Europe.
- Thanks to our Hot Spot Protect, our modules produce up to 5 % more output over the life of your system.
- Fully automated production of cells and modules ensures the strictest quality control every time.

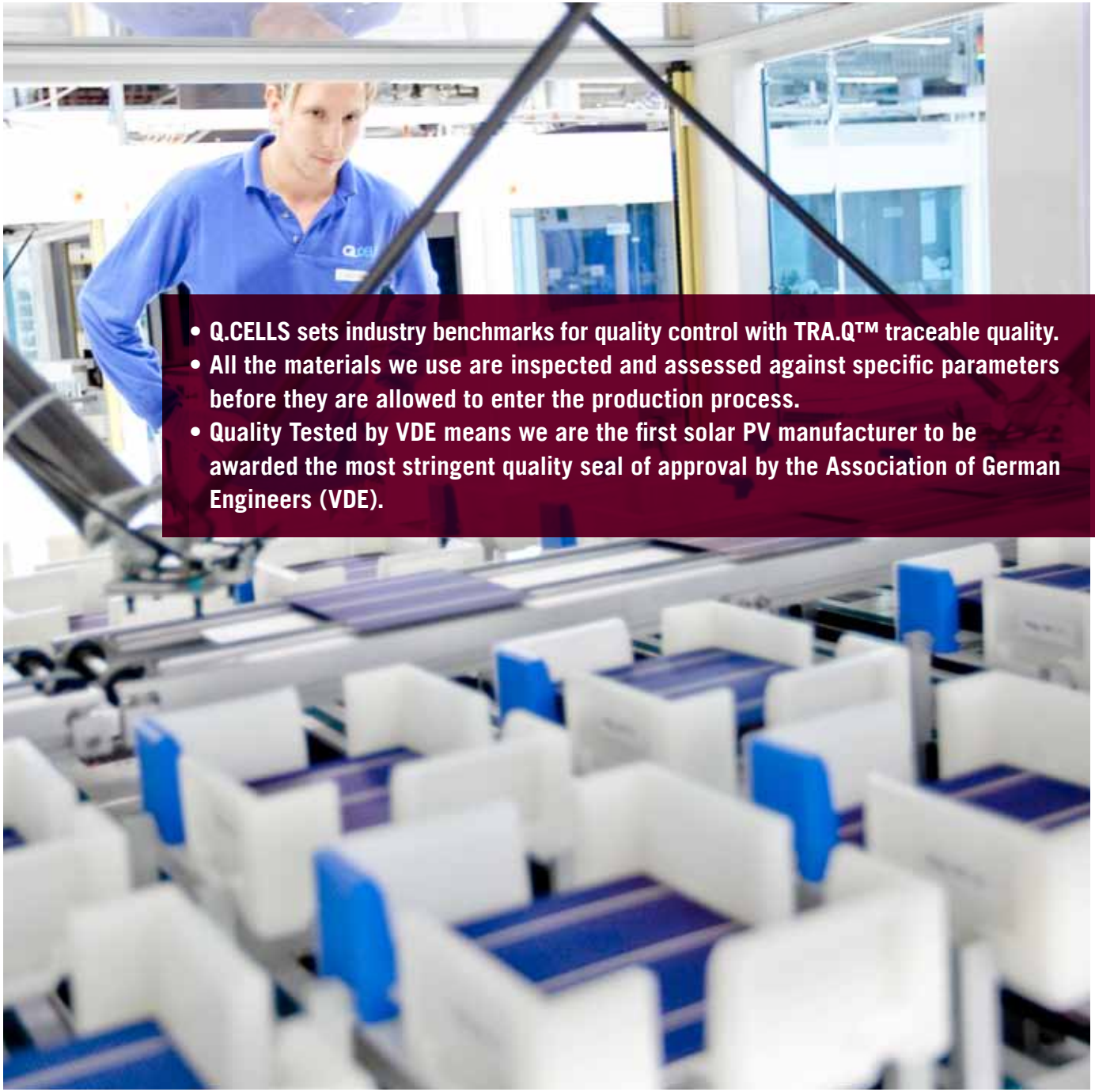
THE BEST QUALITY CONTROL IN THE INDUSTRY
Q.CELLS TRA.Q™ IS STATE-OF-THE-ART

As a vertically integrated cell and module company, Q.CELLS oversees the entire value chain and every step is documented. Before entering the production process, every wafer receives a distinct Data Matrix Code, applied by our unique Traceable Quality (TRA.Q™) laser marking technology. The code relates key data to the individual cell, including delivery date of the raw material and codes of materials used across the production process. This allows for continuous process optimisation, leveraging cost benefits and advancing technological innovations in the solar industry. Plus the risk of forgery is eliminated.



VDE
Quality Tested
high reliability
optimized durability
low degradation
continuous line monitoring
ID. 40032587

Due to our strict quality control, Q.CELLS is the first solar module manufacturer to participate in the Quality Tested program of the German independent certification authority VDE (the Association of German Engineers). Quality Tested by VDE considerably expands the well-known module tests of IEC 61215 and IEC 61730, in terms of the approval certification, the continuous quality controls during the production process, and the frequency of the testing cycle.



- Q.CELLS sets industry benchmarks for quality control with TRA.Q™ traceable quality.
- All the materials we use are inspected and assessed against specific parameters before they are allowed to enter the production process.
- Quality Tested by VDE means we are the first solar PV manufacturer to be awarded the most stringent quality seal of approval by the Association of German Engineers (VDE).

Q.PRO-G2 SOLAR MODULES

RAISING THE BAR FOR HIGHLY RELIABLE ENERGY OUTPUT

Q.CELLS manufactures polycrystalline solar modules based on highly efficient solar cells which are produced in-house. Q.PRO-G2 solar modules offer significant advantages when used in applications with limited space on residential homes or commercial buildings: Excellent efficiencies, outstanding low-light behaviour, and longevity create a perfect foundation for achieving highly reliable energy yields.

Q.PRO-G2 230-250 POLYCRYSTALLINE SOLAR MODULE

PRODUCT BENEFITS

- German engineering for highly reliable yields in the power classes 230-250 Wp
- Further optimisation of output due to positive sorting +5/–0 Wp
- Sturdy, weather-resistant construction
- Approved for increased snow and wind loads of up to 5400 Pa
- Simple, cost-effective installation
- 10-year product warranty, 25-year linear performance warranty*

IDEAL FOR

- Rooftop arrays on residential buildings
- Rooftop arrays on commercial and industrial buildings
- Ground mounted arrays and commercial solar farms

* We guarantee that the power of our modules does not vary by more than 3 % from the nominal power in the first year and it will only decrease by a maximum of 0.6 % per year from year 2, still achieving at least 83 % of the nominal power after 25 years.

SIMPLE, COST-EFFECTIVE INSTALLATION
Q.PRO-G2 SOLAR MODULES ARE VERSATILE AND EASY TO MOUNT

WE COVER SALT IN OUR WARRANTY.

Q.PRO-G2 solar modules are particularly well suited for roofmounted solutions and commercial solar farms, where versatility is essential. They are compatible with all of the latest standard, commercially available inverters and mounting systems allowing for the ease and flexibility that's often required when designing a solar power system.

The ideal size of the Q.PRO-G2 solar modules (1670 mm x 1000 mm) allows good utilisation of the surface area in relation to electricity output.

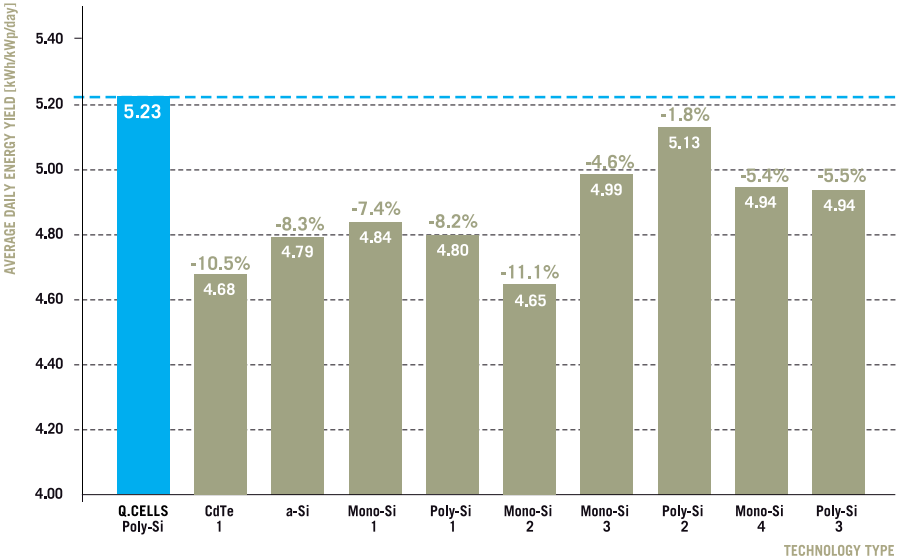
20.64 kWp system in Mermaid Beach, QLD

- Compatible with all of the latest standard, commercially available inverters and mounting systems
- Minimal wiring effort required, as the module itself has high reverse current resistance
- Good power per roof area ratio
- Easy installation due to optimised weight

BETTER THAN THE REST
OUR MODULE IS A TOP PERFORMER IN THE HARSH AUSTRALIAN CLIMATE

We test our modules to the extreme in the Desert Knowledge Australia Solar Centre (DKASC) benchmark comparison. Together with around 20 competitors, solar modules have been monitored in desert conditions in the heart of Australia's outback.

Q.CELLS solar modules are top performers in this side-by-side comparison*. To see how Q.CELLS modules compare to modules from other manufacturers, please visit www.dkasolarcentre.com.au.



Average daily energy Yield (kWh/kWp/day) from comparable system configuration

The data collected by DKASC uses a singular monitoring system for all installations and data used was taken between March 1, 2010 and January 31, 2012.

* Desert Knowledge Australia, the Australian Government, the Government of the Northern Territory, and the project manager of CAT Projects accept no legal responsibility for results and conclusions arising in connection with the data of the DKASC.

WITH OUR INDUSTRY LEADING WARRANTIES
WE DELIVER PEACE OF MIND

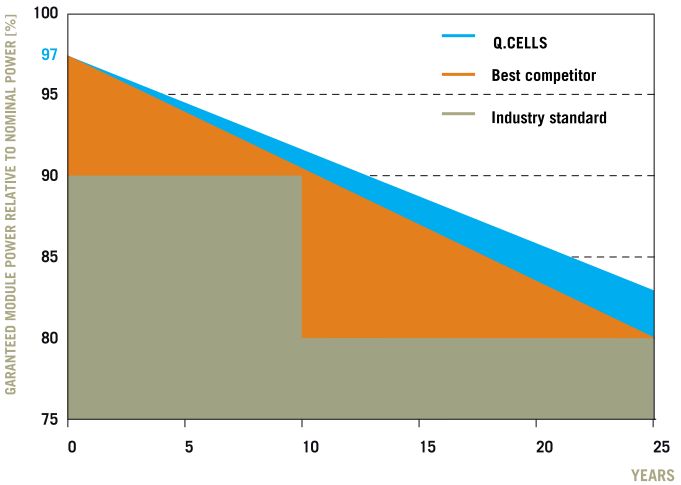
With Q.CELLS you get the best warranty on the market.

Don‘t accept the standard. Q.CELLS offers a linear performance warranty for 25 years of maximum yields as well as a 10-year product warranty. Unlike many other manufacturers, we cover you for salt spray, and we have our modules certified against the effects of ammonia (NH_3), hydrogen sulphide (H_2S) and sulphur dioxide (SO_2).

Hence, we guarantee that the power of a new module:

- does not vary by more than 3 % from the nominal power in the first year,
- decreases by a maximum of 0.6 % per year from year 2,
- and still achieves 83 % of the nominal power after 25 years.

THERE IS NO BETTER PROTECTION FOR YOUR INVESTMENT.



Our linear product warranty guarantees more power output relative to nominal power - in fact 7.5% more than the traditional step warranty.

CONTACT

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