

# WHY Q CELLS?

# 1

## Q CELLS PANELS ARE THE TOP PERFORMERS (WITH THE AWARDS TO PROVE IT).

### BENEFIT

Q CELLS solar panels produce more electricity over a range of conditions (not just under laboratory conditions) - early in the morning, late in the day, cloudy days, bright sunshine on hot days, in the depths of winter when the sun is low in the sky.



### DETAIL

- Most solar panel manufacturers rely on making their products look good on paper. For example, datasheets show performance under specific laboratory conditions. However sunlight doesn't fall on panels from the same angle with the same intensity all the time... in fact it rarely does!
- Q CELLS builds solar panels specifically to perform effectively over a range of conditions. They are designed to collect sunlight hitting the panels from low (and high) angles, when it is very hot (and very cold). That way the electricity produced over time ("yield") is maximised and your electricity costs are minimised.

### PROOF

Number 1, when compared side by side with other leading manufacturers:

- Top performer, Desert Knowledge, an ongoing independent and public test in the Australian desert. Q CELLS is consistently outperforming the competition [www.dkasolarcentre.com.au](http://www.dkasolarcentre.com.au)
- Top poly module 2014 Photon Yield Test in Europe. Tested alongside 171 modules we were number 1 poly and 6th overall.
- Top poly module 2013 Photon Yield Test in Europe. Tested alongside 151 modules we were number 1 poly and 4th overall.
- One of the best Performance Warranties with only 0.6% maximum degradation per annum (compared to 0.7% from most others)

### MORE INFO

- 'Supreme Performance' PDF

# 2

## Q CELLS PANELS PROVIDE ULTIMATE RELIABILITY (TO MAINTAIN TOP PERFORMANCE OVER 25 YEARS)

### BENEFIT

Q CELLS maximise return on investment by providing highly stable power production for decades.



### DETAIL

- Q CELLS invests more into quality control and improvement programs (R&D) than other manufacturers in the industry. Q CELLS solar modules are tested harder – well above minimum standards. Q CELLS test on a regular basis, not just once off.
- Q CELLS doesn't rely on internal quality tests – they are pioneer participants in the VDE Quality Tested Program which is the leading, independent testing program for PV modules.
- Q CELLS eliminates significant known safety and “performance killers” such as “PID” and “hot spots” in their design and are the only manufacturer to include this protection in their leading 12 year warranty.

What does all this mean? It means you are getting solar panels that are designed to last and are the same technology as the panels that win all the performance awards. And you are getting a product warranty that is longer and more comprehensive than other panels.

### PROOF

- Q CELLS is the only manufacturer to include protection against both PID and hot spots in their warranty.
- Q CELLS' product warranty is 20% longer than the industry standard.
- VDE Quality Tested program tests harder than minimum standards on a continual basis, not once off. Most manufacturers have inferior quality testing programs and do not obtain regular independent verification of their production.
- Q CELLS' G3 modules underwent testing at James Cook University's cyclone testing centre and withstand cyclic loads equivalent to a one in 500 year storm in northern Australia.



12 year product warranty specifically includes PID and hot spots.



German independent certification institute VDE - where repeated tests are mandatory



Rainer Lemoine R&D in Germany cost €50 million to set up and is the largest private solar PV research facility.

### MORE INFO

- 'Q CELLS Warranty' PDF
- 'Testing to the Max' PDF
- 'Cyclone Testing' PDF

# 3

## Q CELLS ARE THE SOLAR SPECIALISTS (AND ARE BACKED BY A GLOBAL POWERHOUSE)

### BENEFIT

You are getting the best technology because solar is all we do and we've been doing it a long time. Your investment is safe because Q CELLS is backed by a massive and diversified global company, Hanwha Group.



### DETAIL

- Q CELLS panels are the culmination of over 16 years in the business, which is much longer than most others in the industry.
- Q CELLS recently became the largest solar cell manufacturer in the world with a capacity of 3.28 GW.
- Solar is all Q CELLS does – they are involved in all stages of production from silicon to cells to modules to solar farms.
- Over the years, Q CELLS has set many world records in solar cell efficiency.
- Q CELLS are owned by the Hanwha Group which is a diversified Fortune 500 company with a large balance sheet and a commitment to solar technologies.

### PROOF

Q CELLS was established 1999 in Thalheim Germany.  
We have 350 personnel at our Headquarters for Innovation and Technology in Thalheim.  
Hanwha is listed on the NASDAQ, code HQCL.

#### Some recent world records:

- 2011 Efficiency 18.1% for multi-crystalline module
- 2012 Efficiency 18.5% for multi-crystalline module
- 2012 First PV company to break the 300Wp in a 60 cell module

#### Hanwha Group:

- Total assets (2014) \$107 billion USD
- Employees: 30,000 approx.
- Fortune 500 rank 331



### MORE INFO

- [www.q-cells.com/en/company/about-q-cells.html](http://www.q-cells.com/en/company/about-q-cells.html)