

EXPERT REVIEW OF QCELLS SOLAR PANELS

By Catherine Lane Updated 01/29/2024



Qcells is a Tier 1 solar panel manufacturer that makes high-performance photovoltaic (PV) and energy storage products for the residential, commercial, and industrial solar energy markets. Its solar panels are near the top of the market for efficiency, performance, and warranty structure, and they are used by installers worldwide.

Qcells is one of the most popular solar brands in the U.S. If you're shopping for solar and comparing offers from solar installers, you've probably seen a quote that includes Qcells panels and wondered if they're any good.

Well, we think they're great. In fact, we liked them enough to crown Qcells as #1 on the SolarReviews Best Solar Manufacturers list.

Qcells are high-quality, high-reliability panels sold at a good price. Qcells solar panels' quality, the company's huge investment in American manufacturing, and their commitment to long-term support are all reasons we recommend Qcells modules to anyone looking for a new solar installation.

Key takeaways

- Qcells is SolarReviews' #1 solar panel manufacturer in 2023.
- The company produces high-quality monocrystalline silicon solar panels for home, commercial, and industrial use, and manufactures many of its products for the U.S. market in Dalton, Georgia.
- The company's newest technology advancement is Q.ANTUM NEO, which has allowed its Q.TRON panels to reach 22.0% efficiency ratings.
- Bottom line: Qcells are among the top panels you can buy for your home, with performance, cost, and warranty that equals that of other Tier 1 solar panels.

Is it Qcells, Q CELLS, or Hanwha Q CELLS?

Qcells solar panels have a history just as long as the modern solar industry. The company has been sold and rebranded a few times since its inception and has grown from humble roots into a worldwide manufacturer. Founded in 1999 in Thalheim, Germany, as Q CELLS AG, the company quickly grew to be one of the top solar module manufacturers in the world. Unfortunately, the late-2000s worldwide economic downturn and strong competition from government-subsidized Chinese solar panel companies took their toll, and in 2011, the company filed for insolvency. The Hanwha Group, a South Korean company with a robust solar business, purchased its assets.

In the years since, Hanwha has brought together its German engineering team and world-class manufacturing capabilities to reinvigorate the Q CELLS brand, becoming one of the world's top 10 solar module manufacturers. In 2018, Hanwha removed its name from the brand, leaving its products simply called "Q CELLS". It further streamlined the brand name in 2022, becoming the less-shouty "Qcells."

However, you'd be forgiven for using any format of the brand name. Hanwha still owns the company, and even the Qcells North America website includes the old all-caps style of the name in various places.

Qcells now has manufacturing facilities worldwide, most notably its huge U.S. facility in Dalton, Georgia, the largest solar manufacturing plant in the Western Hemisphere, upon its completion in 2019. The company currently makes more solar panels in North America than any other and is set to continue to grow its production capacity in Georgia. Any Qcells panel you buy in America will likely have been made by workers in Georgia.

The ultimate guide to solar panel warranties

By [Jamie Smith](#)

Updated 09/07/2023



Solar panel warranties provide customers with a layer of protection from any errors or faulty equipment.

When you invest in a solar energy system, one of the most crucial things to consider is the warranty offer. Manufacturer warranties provide a layer of financial protection for you in the event of faulty solar equipment, performance issues, and more. Researching warranty offers can be a little confusing, and going through countless documents can become a hassle.

Lucky for you, we're here to break it all down and share our top picks for the best solar panel warranties on the market today!

What is a solar panel warranty?

A solar panel warranty is a guarantee that a company or manufacturer gives to the customer, promising coverage for their products and how well they are expected to perform.

Any reputable solar panel manufacturer will offer two warranties: a product warranty and a performance warranty. These cover manufacturing faults and guarantee a certain level of performance for your panels.

Product and performance are the two basic warranties to watch when researching solar panel brands to invest in. However, some manufacturers go above and beyond and offer additional protection for things like installation, labor, and additional parts. These warranties are usually offered by manufacturers with certified installer programs, like Our World Energy and SunPower.

What's the difference between product and performance warranties?

So, how can you decipher between product and performance warranties? It's simple: product warranties cover the panels themselves (and sometimes other equipment, too!), while performance is more or less a promise that your panels will perform at a certain percentage over their lifespan.

Product warranty

Also known as an equipment or materials warranty, a product warranty protects you from any defects your solar equipment has that could have stemmed from workmanship errors during manufacturing or

poor material quality. **Standard product warranties typically last 10 to 15 years. However, it's becoming increasingly common for premium panels to offer 20 or 25-year product warranties.**

It's not very common, but it is definitely possible for your equipment to malfunction. Product warranties typically don't cover the costs of diagnosing issues with panels – they cover the cost of repairing or replacing them if the issue is found to be linked to the manufacturer. These warranties don't typically last as long as performance warranties – likely because trained installers should catch any imperfections right away.

For example, if you're a homeowner getting panels installed and your installer notices a panel not functioning properly, the manufacturer will cover the costs to fix or replace it. Solar systems can be pricey, so being protected from putting forth even more money in the event of a faulty panel is always a bonus. Luckily, most, if not all, solar panel manufacturers offer a product warranty, so you can sleep better at night knowing you're covered!

Product warranties are not installer workmanship warranties. Product warranties cover issues that happen during manufacturing. Issues from the actual installation would be covered by a warranty provided by the solar installer.

Performance warranty

Performance warranties guarantee a percentage of electric power output over the warranty period. Most solar manufacturers offer 25-year performance warranties. The amount of power your solar panel can output declines steadily over that period. While [solar panel degradation](#) is normal, be sure to read over your panel's [specification sheet](#) or warranty terms for specifics.

The average solar panel performance warranty will guarantee a panel's power output won't drop by more than 2% after the first year and no more than 0.5% each year after that for the remainder of the warranty period.

Degradation rates vary based on the manufacturer. **The lower the degradation rate, the better.** As a general rule, stick with panels with a degradation rate in the 0.5% range or lower. This means you have panels that will produce more energy over its lifespan.

Remember that just because your panel isn't operating at its full wattage doesn't necessarily mean it's damaged. The performance warranty for solar panels is based on the panel's operation under [Standard Test Conditions](#). So, don't panic if you notice slight underperformance at first. There are a few different factors that go into how well a panel performs!

Why are solar panel warranties important?

Warranties are a signal of quality in a product. Companies offer better warranties for products that are better quality. Solar panel failure is extremely rare, as they are explicitly designed to last decades and withstand harsh weather conditions.

That being said, errors can occur. **Warranties give customers peace of mind that the products are of the best quality and don't contain any defects.**

If this happens to you, it's always good to have coverage on a big investment like solar panels! If your system has a problem, it's nice to know there may be a way to find a solution. Just keep in mind that testing panels to find any manufacturing defects can be a lengthy process

To better understand what a good solar panel warranty looks like, we picked the top warranty on the market today.

Qcells



This American solar panel manufacturer landed the #1 spot on our top manufacturer list for 2023. As an extremely respected, reliable solar company, Qcells truly has it all – including a solid warranty offer.

- **Product warranty:** 25-year
- **Performance warranty:** 25-year warranty that promises your system will operate at 86% of its total power by the end of the warranty period, with a degradation rate of 0.5% per year.

Final thoughts

Trying to find a good warranty can seem like a grueling process, but here are a few key things to keep in mind in your search:

- The lower the degradation rate on your panels, the better!
- Standard product warranties last 10-15 years, but some premium panels can go as high as 20 to 25 years.
- Standard performance warranties last 25 years, but some are seen to go up to 30 years.
- The better the warranty offer, the higher the solar panel quality!

Any reputable solar installer will sell panels with top-notch warranties and go above and beyond the industry standard.



Q.PEAK DUO BLK ML-G10+ 385-405

ENDURING HIGH
PERFORMANCE



BREAKING THE 20% EFFICIENCY BARRIER

Q.ANTUM DUO Z Technology with zero-gap cell layout boosts module efficiency up to 20.9%.



THE MOST THOROUGH TESTING PROGRAMME IN THE INDUSTRY

Q CELLS is the first solar module manufacturer to pass the most comprehensive quality programme in the industry: The new "Quality Controlled PV" of the independent certification institute TÜV Rheinland.



INNOVATIVE ALL-WEATHER TECHNOLOGY

Optimal yields, whatever the weather with excellent low-light and temperature behavior.



ENDURING HIGH PERFORMANCE

Long-term yield security with Anti LID Technology, Anti PID Technology¹, Hot-Spot Protect and Traceable Quality Tra.Q™.



EXTREME WEATHER RATING

High-tech aluminum alloy frame, certified for high snow (5400Pa) and wind loads (4000Pa).



A RELIABLE INVESTMENT

Inclusive 25-year product warranty and 25-year linear performance warranty².

¹ APT test conditions according to IEC/TS 62804-2:2015, method A(-) 1500V, 36 Hz
² See data sheet on rear for further information.

THE IDEAL SOLUTION FOR:



Roof-top arrays on residential buildings

Engineered in Germany



DATA SHEET



IQ8 and IQ8+ Microinverters

Our newest IQ8 Microinverters are the industry's first microgrid-forming, software-defined microinverters with split-phase power conversion capability to convert DC power to AC power efficiently. The brain of the semiconductor-based microinverter is our proprietary application-specific integrated circuit (ASIC), which enables the microinverter to operate in grid-tied or off-grid modes. This chip is built using advanced 55-nm technology with high-speed digital logic and has superfast response times to changing loads and grid events, alleviating constraints on battery sizing for home energy systems.



Part of the Enphase Energy System, IQ8 Series Microinverters integrate with the IQ Battery, IQ Gateway, and the Enphase App monitoring and analysis software.



Connect PV modules quickly and easily to IQ8 Series Microinverters using the included Q-DCC-2 adapter cable with plug-and-play MC4 connectors.



IQ8 Series Microinverters redefine reliability standards with more than one million cumulative hours of power-on testing, enabling an industry-leading limited warranty of up to 25 years.



IQ8 Series Microinverters are UL Listed as PV rapid shutdown equipment and conform with various regulations, when installed according to the manufacturer's instructions.

Easy to install

- Lightweight and compact with plug-and-play connectors
- Power line communication (PLC) between components
- Faster installation with simple two-wire cabling

High productivity and reliability

- Produce power even when the grid is down*
- More than one million cumulative hours of testing
- Class II double-insulated enclosure
- Optimized for the latest high-powered PV modules

Microgrid-forming

- Compliant with the latest advanced grid support**
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles
- Meet CA Rule 21 (UL 1741-SA) and IEEE* 1547:2018 (UL 1741-SB 3rd Ed.)

NOTE:

- IQ8 Microinverters cannot be mixed with previous generations of Enphase microinverters (IQ7 Series, IQ6 Series, and so on) in the same

*Meets UL 1741 only when installed with IQ System Controller 2.

**IQ8 and IQ8+ support split-phase, 240 V installations only.