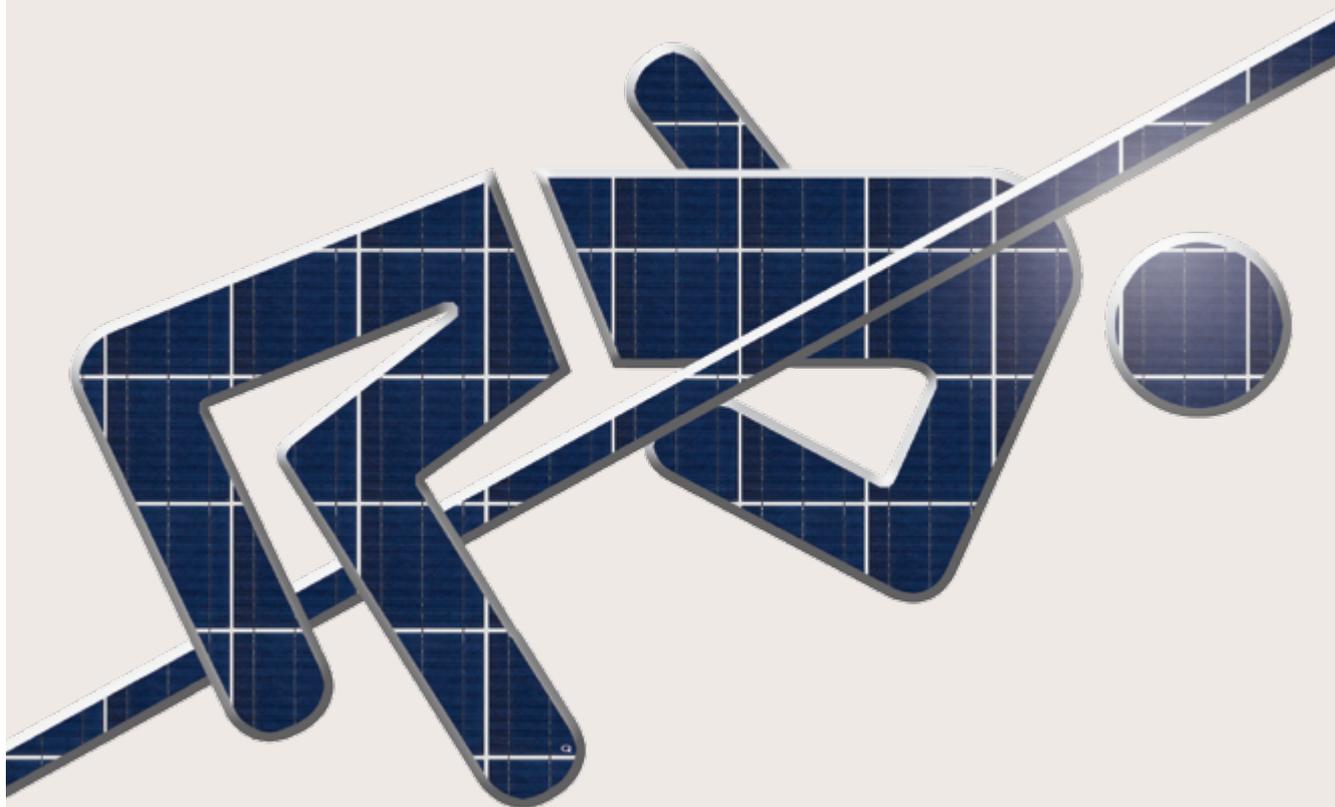


**THE 3RD GENERATION OF Q CELLS SOLAR MODULES  
WE'VE RAISED THE BAR ONCE MORE**



**G3**

There is a fine line between victory and defeat in both sports and the photovoltaic industry. In the extremely competitive solar energy market, performance, safety and endurance, as well as easy installation and outstanding design are of particular importance. Our G3 solar modules are the star athletes of the next generation in every discipline. The power, versatility and reliability of our champions are sure to win you over.

Our new G3 solar modules are the gold medalists of the modern module pentathlon – the toughest sport in the solar industry. With the best performance, state-of-the-art technology, outstanding design and the most rigorous testing, you're always betting on a winner. We guarantee this by offering you an extended 12-year product warranty and one of the best linear performance warranties on the market.

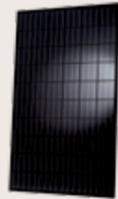
## OUR ATHLETES: 3RD GENERATION Q CELLS SOLAR MODULES

## PV EXTREME SPORTS: THE MODERN MODULE PENTATHLON



### Q.PEAK-G3 MONOCRYSTALLINE HIGH-PERFORMANCE SOLAR MODULE

Trademark: The high-performance champion  
Nominal Power: Up to 280 Wp  
Advantages: High performance. Reliability.



### Q.PEAK BLK-G3 MONOCRYSTALLINE SOLAR MODULE IN BLACK

Trademark: The aesthetically perfect athlete  
Nominal Power: Up to 275 Wp  
Advantages: Aesthetics. Reliability.



### Q.PEAK S-G3 MONOCRYSTALLINE 48-CELL SOLAR MODULE

Trademark: The compact powerhouse  
Nominal Power: Up to 225 Wp  
Advantages: Compact. High performance.



### Q.PRO-G3 POLYCRYSTALLINE HIGH-PERFORMANCE SOLAR MODULE

Trademark: The versatile world record holder  
Nominal Power: Up to 270 Wp  
Advantages: Versatility. Safety.

Just like their predecessors, all the new G3 solar modules offer our exclusive triple Yield Security: Anti PID Technology (APT), Hot-Spot Protect (HSP) and Traceable Quality (Tra.Q™). In addition, they are all VDE Quality Tested. Only Q CELLS can offer you all that!



### CELL TECHNOLOGY

**High performance** and **top yields** make our cells the real powerhouses in any competition.



### HIGH-TECH FRAMES

**Flexibility** and **durability** make it possible for our new, slim frames to withstand even higher loads, including cyclone pressure testing.



### ANTI-REFLECTION TECHNOLOGY

Thanks to its **corrosion resistance** and **longevity**, our new solar glass with anti-reflection technology is the most efficient at absorbing light and achieves the highest yields.



### CONTACTS

**Sophisticated technology** and **the best materials** make our new junction boxes and connectors even more durable.



### LOGISTICS AND STORAGE COSTS

**The slim design** and **low weight** minimise logistics and storage costs and help protect the environment by using less packaging.

In this brochure, we will not only introduce you to our top athletes and the powerful Hanwha Q CELLS team, but we will also explain in detail what makes our new G3 solar modules the real winners. On your marks, get set, go!

The 100 m sprint is where the fastest athletes put on their show. To achieve top results in the photovoltaic industry, the solar cell – the heart of every solar module – needs to be in top form. Optimal performance and rapid energy conversion are what separates the leaders from the pack. With an efficiency of 19.5%, the Q.ANTUM cell technology from Q CELLS is the current record holder.

## SOLAR CELL TECHNOLOGY: TOP PERFORMANCE FOR MAXIMUM POWER

The research and development team at Q CELLS has trained our solar cell technology in the new monocrystalline and polycrystalline G3 solar modules for ultimate performance. Thanks to outstanding temperature coefficients (-0.42%/K) and output in low-light conditions (98% at 200 W/m<sup>2</sup>), they are optimally prepared for the conditions at any installation site.

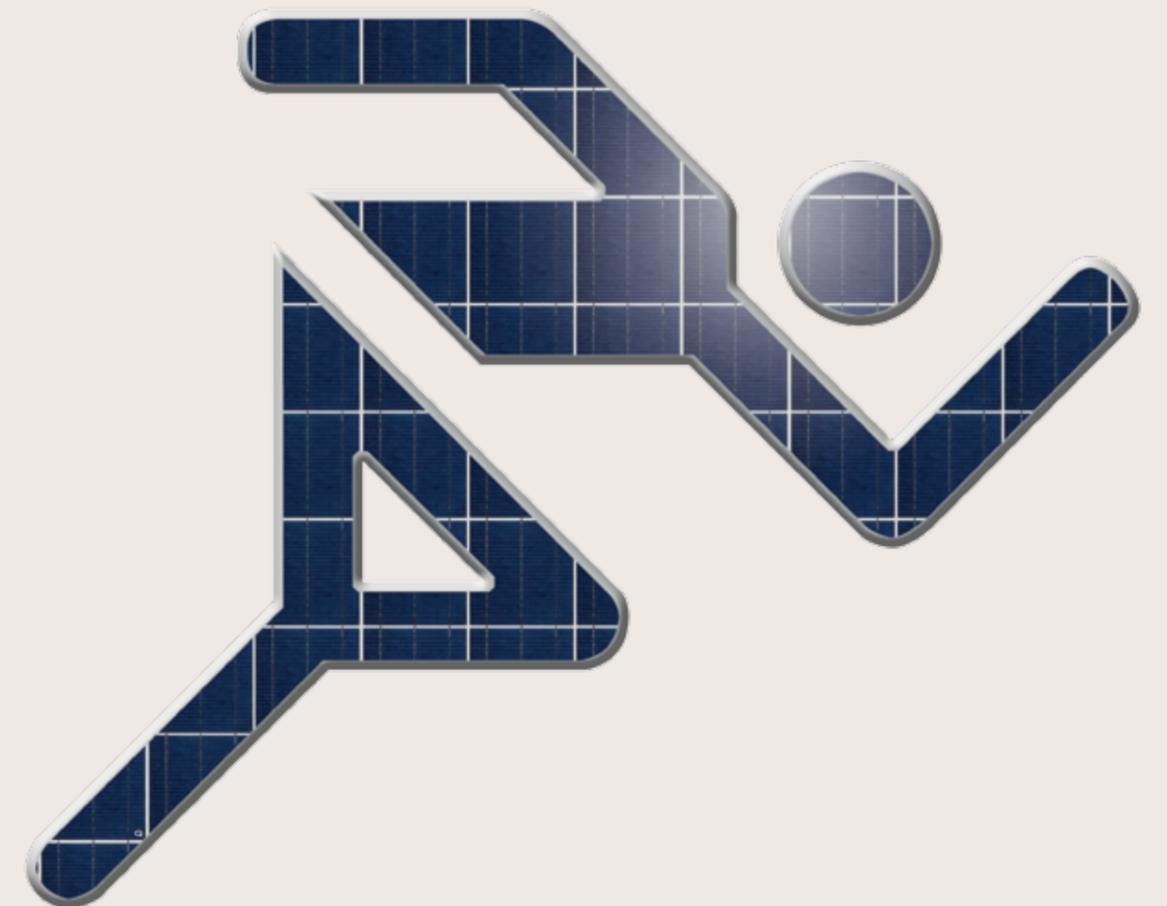
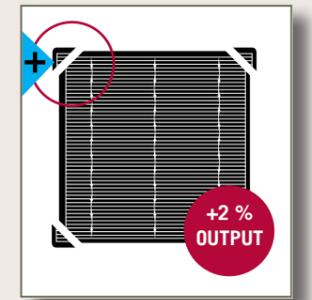
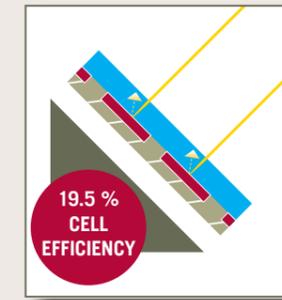
### WORLD CHAMPION POLYCRYSTALLINE CELL TECHNOLOGY

The high-performance cell concept Q.ANTUM is put to good use in the high performance categories of our polycrystalline solar module Q.PRO-G3. The innovative dielectric rear surface structure reflects rays of light that have passed through the cell without being utilised. This means that light energy which would otherwise have been lost can now be converted into electricity. This makes it possible to increase efficiency to 19.5% at the cell level – a world record value confirmed by the Fraunhofer Institute for Solar Energy Systems ISE, making our polycrystalline 60-cell modules the best performers on the market.

### PERFORMANCE-BOOSTING MONOCRYSTALLINE CELL TECHNOLOGY

The current monocrystalline cell increases module performance by up to 2% thanks to a new busbar layout and full-square format. The uniform black appearance is especially aesthetic.

Approach the starting line with state-of-the-art cell technology from Q CELLS.



### YOUR ADVANTAGES:

- + Improved power thanks to implementing world record technology Q.ANTUM with cell efficiencies of up to 19.5%
- + Higher efficiency due to the full-square cell format
- + Maximum output in low-light conditions and at high temperatures
- + Long-term performance reliability thanks to Q CELLS Yield Security

# G3

New high-tech materials allow for performance output that has never been seen before. A slim design and long-term durability don't have to be mutually exclusive. For example, steel was the material of choice for pole vaulters until 1994 when the introduction of a purportedly fragile resin pole made it possible to increase the world record from 4.80 m to 6.14 m. The use of flexible high-tech materials also guarantees optimal durability for solar module frames.

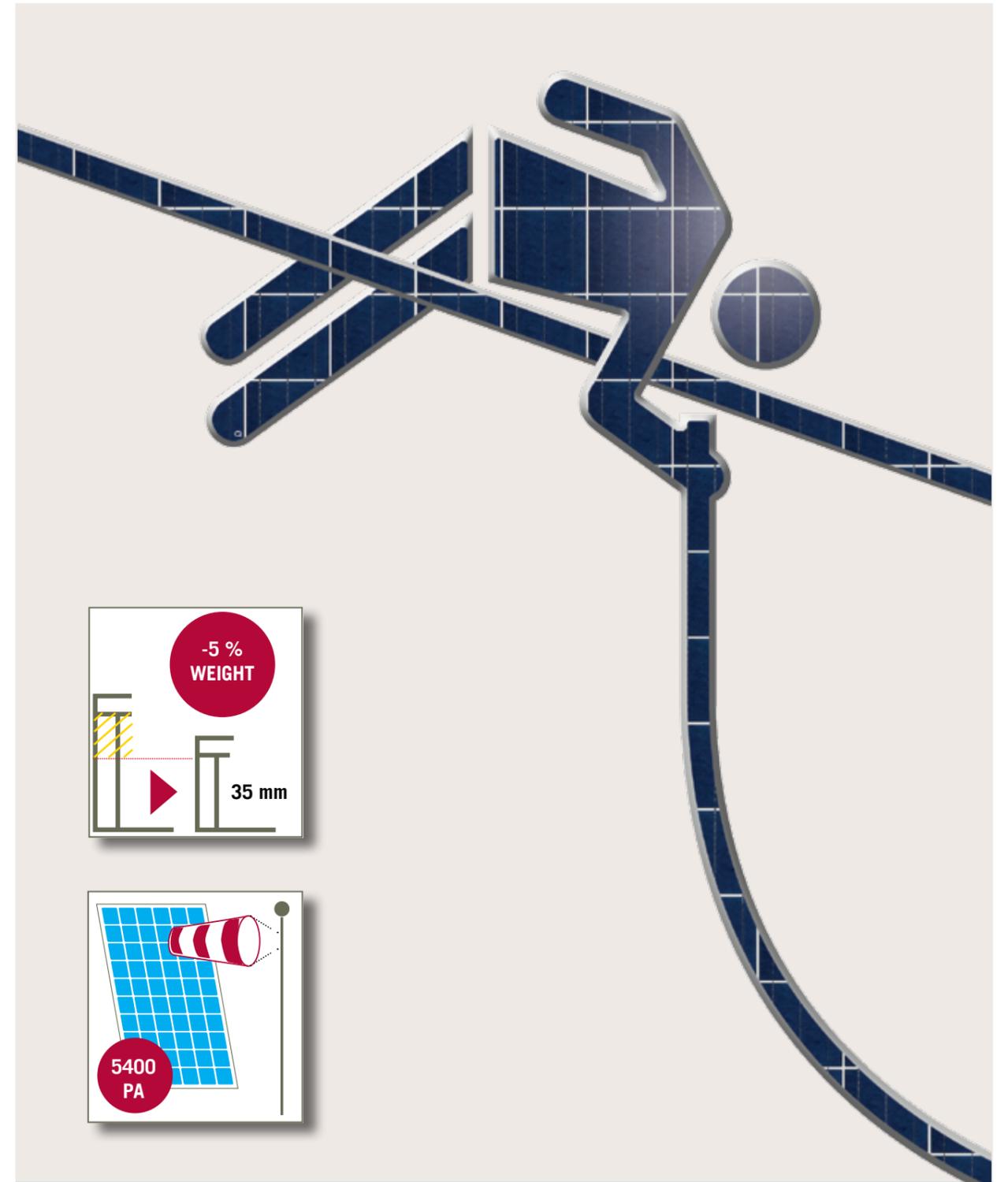
## FRAME TECHNOLOGY: FLEXIBILITY FOR THE HIGHEST LOADS

The 35 mm frame of the G3 solar modules from Q CELLS is composed of a high-tech aluminium alloy, same used in modern architecture. Thanks to a special thermal treatment, it is particularly tension-resistant, flexible and much better than other alloys in terms of its surface properties.

The bonding of the high-tech frame and the laminates with high-quality silicon gives the G3-series solar modules above-average stability so that they can withstand even the highest loads such as from wind gales or sliding snow. Our new frame has successfully passed dynamic load (wind loads) testing of up to 5400 Pa.

The new 3rd generation Q CELLS modules have passed all internal and external load tests. The result is an extremely stable and lightweight solar module, weighing in at only 19 kg for our 60-cell module.

With the new Q CELLS frame concept, your PV projects will also live up to the Olympic motto: faster, higher, stronger.



### YOUR ADVANTAGES:

- + High-tech aluminum alloy ensures maximum durability
- + Elegant PV system design thanks to low construction height
- + Lower weight makes installation a snap and reduces roof load
- + Now rated for up to 5400 Pa (wind load)

# G3

Q CELLS

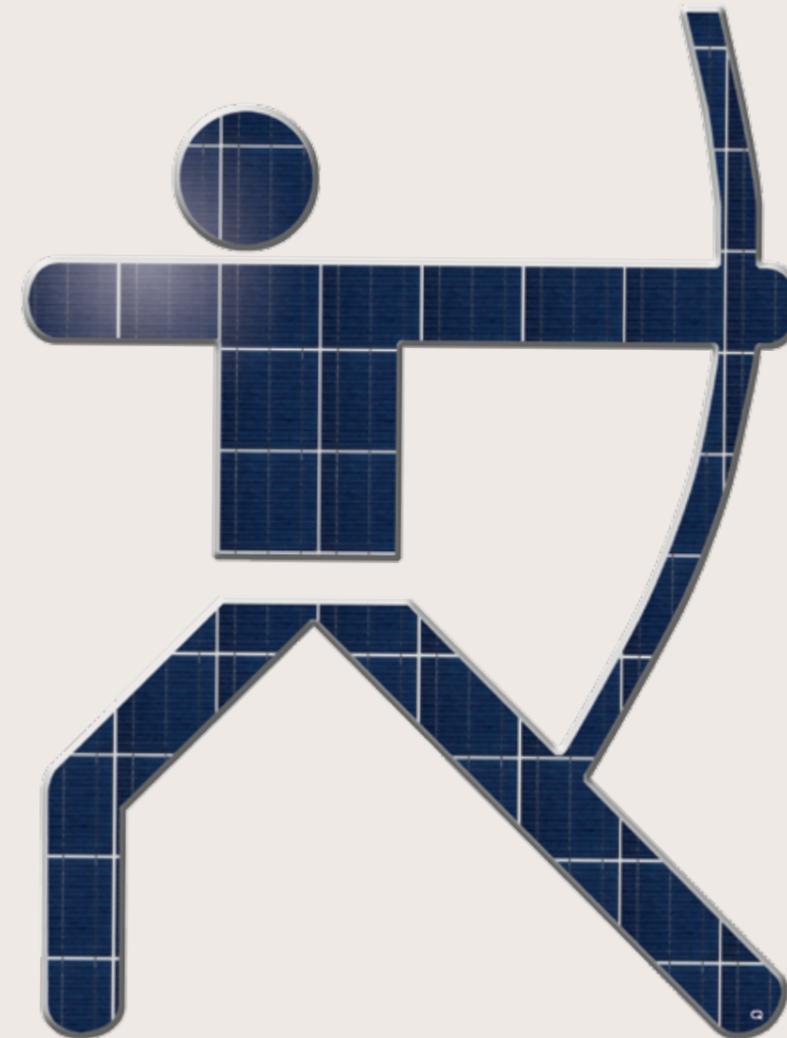
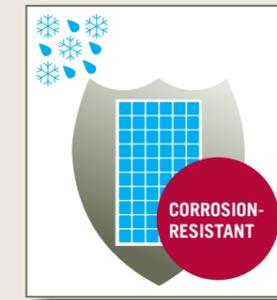
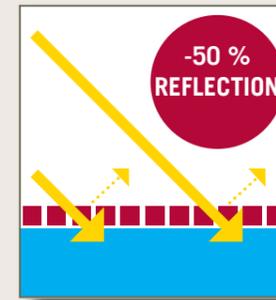
Like in archery, photovoltaics is all about hitting the solar module target with as many rays of sunlight as possible. No one wants module glass that reflects light. Our ARC technology minimises light loss like no other.

## ARC TECHNOLOGY: SET YOUR SIGHTS ON MAXIMUM HIT RATES

A ray of light reflected by module glass is lost forever and does nothing for the PV system's performance record. Module glass with anti-reflection technology helps to minimise undesired reflections.

The Sol-Gel roller coating process gives the solar glass of Q CELLS modules a compact anti-reflection layer that offers high optical quality and long-term durability. Our anti-reflection technology creates an absolutely homogeneous and corrosion-resistant module glass surface with around 50% less reflection. Our technology has also passed the salt mist test with flying colours.

This is why the innovative development and production of the best photovoltaic products is the driving force behind our business. With Q CELLS, you can set your sights on something higher as well as benefit from our expertise and experience.



### YOUR ADVANTAGES:

- + 50% less light loss thanks to anti-reflection technology
- + Around 2% more power
- + Sol-Gel roller coating technology ensures highly consistent coating quality

# G3

Q CELLS

Did you know that tug of war was an Olympic sport from 1900 to 1920? Strength, stamina and technique make tug of war a true high-performance sport. The same applies for junction boxes and connectors. They are strong, secure and defy even the heaviest loads. Just one look at the impressive performance data shows that we're ready for the competition.

## JUNCTION BOX & CONNECTORS: AN ETERNAL CONNECTION

### JUNCTION BOX:

The junction box features a breathable membrane that prevents water from entering, while at the same time drawing moisture and heat out – performance sports clothing for our junction boxes! The intelligent design of the junction box generates at least 50% less contact resistance in comparison to other popular junction boxes on the market. This minimises heat build up and increases power output. Diodes and cables, which are welded instead of soldered, also guarantee more stability. Plus, the junction box is resistant to ammonia and salt water. Voltages of up to 1000 V are permitted in accordance with UL.

### CONNECTORS:

The connectors are compatible with original MC4 connectors and can be installed using the same tools. Furthermore, 15% less contact resistance makes our connectors even more efficient. The robust design defies the toughest conditions such as salt water and high mechanical loads, while an increased extraction force of 500 N keeps the connectors securely together.

Connect with our quality. Join forces with Hanwha Q CELLS.



### YOUR ADVANTAGES:

- + Rapid installation thanks to MC4-compatible connectors
- + Minimal heat build-up inside the junction box means improved performance
- + Optimal temperature management due to breathable membrane
- + Robust design

# G3

Q CELLS

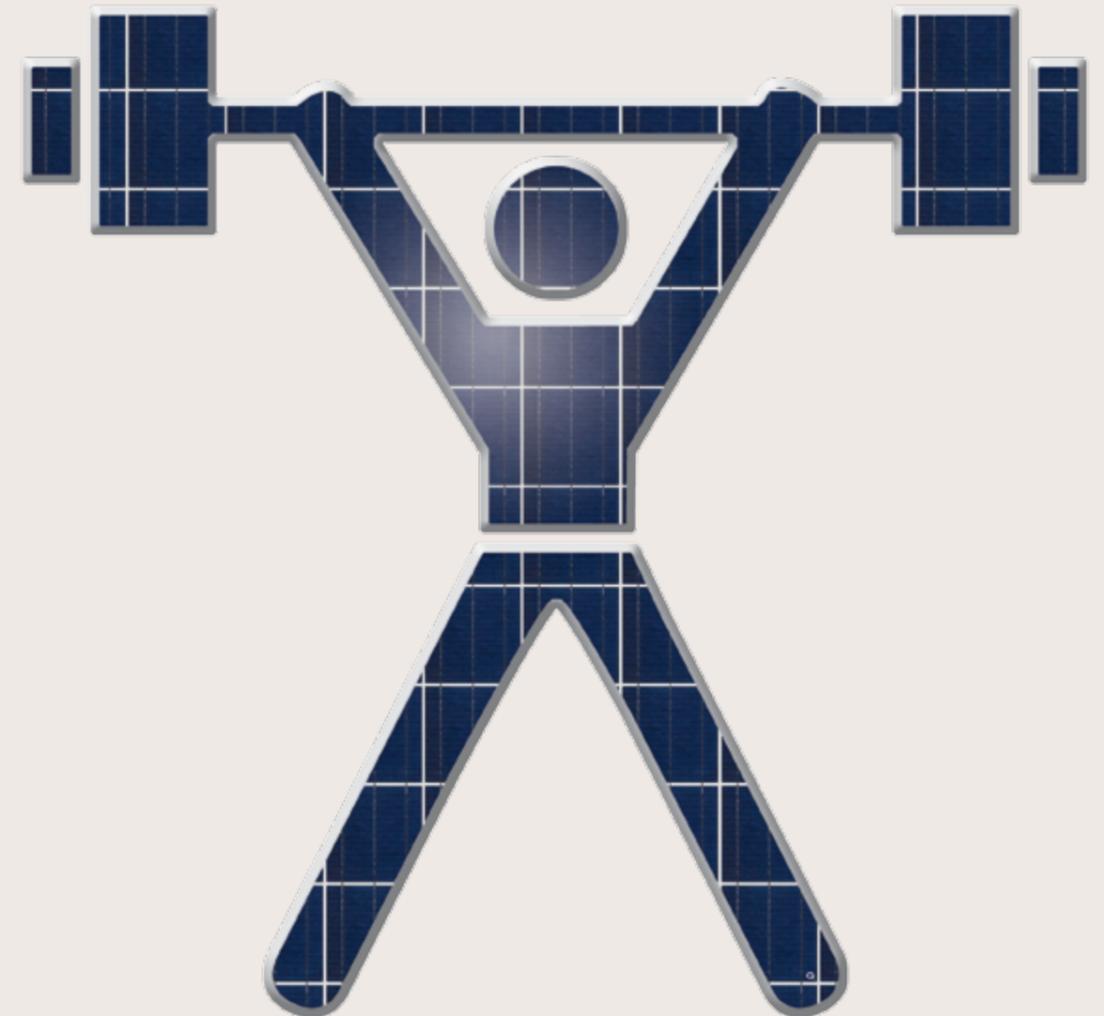
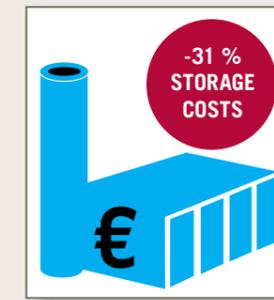
Strength alone does not make a weightlifter. Speed and coordination are also required if an athlete wants to successfully lift heavy weights. To minimise costs in the intense PV competition, we are now offering our customers significantly improved logistics with clear cost advantages thanks to the new, slim design of our 3rd generation modules.

## LOGISTICS & WAREHOUSING COST BENEFITS: LOWER LOADS FOR OUR PARTNERS

The new G3 modules offer clear logistics and cost benefits.

The slimmer design has allowed us to substantially reduce the weight and volume of our modules. A 60-cell module now weighs just 19 kg instead of 19.8 kg, and our 48-cell module Q.PEAK S-G3 now tips the scales at just 15.5 kg instead of 16 kg. Most importantly, this makes the installation of our modules easier.

In addition, 45% more modules can be loaded per container – 29 modules can now be transported per pallet rather than just 20 modules as before. This reduces more than packing and transport costs – our new G3 solar modules also save you up to 31% on your logistics and storage costs.



### YOUR ADVANTAGES:

- + Up to 45% more modules per container
- + Up to 31% lower logistics and storage costs
- + Reduction of packaging materials – even the environment benefits!

# G3

Two partners, double the power, one goal. In Q CELLS and the Hanwha Group, certified quality "Engineered in Germany" has teamed up with a financially secure global player. The new team of Hanwha Q CELLS is now on the podium as the third-largest PV manufacturer and boasts state-of-the-art technology, financial security and a global network.

## HANWHA Q CELLS: TWICE THE POWER FOR YOUR SUCCESS

### OUR TEAM

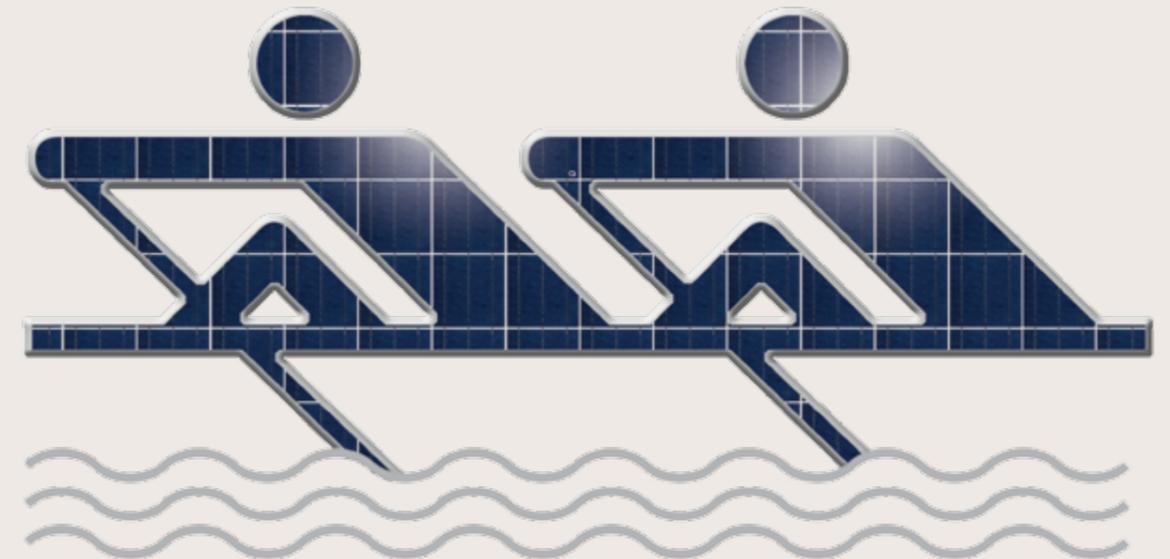
The Hanwha Q CELLS team stands for global technology leadership. This commitment is backed up by our technology centre in Germany. The synergies between Q CELLS and Hanwha offer you the opportunity to work with a strong, reliable and leading global solar company. Q CELLS' strengths in terms of quality, innovation and performance have united with the financial resources and global network of the Hanwha Group, one of the largest corporate groups in South Korea. This guarantees that you are working with one of the most financially secure technology leaders on the solar market, so that you can enjoy a care-free future in the strongly contested PV industry.

### OUR ASPIRATIONS

Q CELLS is the first solar module manufacturer to have continually and successfully participated in the "Quality Tested" programme of the independent German certification authority VDE since 2011. Compared to standard module tests, the "Quality Tested" programme raises the bar considerably in terms of the approval certification as well as the quality controls during production and the number of test cycles. For the very first time, repeat tests have become compulsory. They guarantee the highest quality solar modules – at all times and at all production sites. We also test our products in our own module test centre in Germany to a much higher standard than is required by standard tests. In addition, we put our modules 'through the wringer' around the world in a number of outdoor test fields in some of the harshest environmental conditions.

This gives us the confidence to offer our customers the best warranty conditions in the industry. Our new 12-year product warranty, along with our industry-leading 25-year linear performance warranty, is proof that we stand behind our team.

Come on board and become part of the successful Q CELLS team. After all, in future, we want to celebrate more than just our victory in the modern module pentathlon with our partners...



### YOUR ADVANTAGES:

- + A reliable, global partner
- + Optimal quality thanks to German engineering and continuous participation in the VDE Quality Tested programme
- + Internationally certified solar modules
- + 12-year product warranty and 25-year linear performance warranty

# G3

**Q CELLS**

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