### QUALITY MANUFACTURING

REC products and production processes are certified according to multiple industry standards by independent third parties, solidifying the fact that REC meets the highest quality standards for a long-lasting product and performance:

IEC 62941

Quality System for PV Module Manufacturing

ISO 9001: 2015 Quality Management System

### QUALITY OF TESTING

REC uses its own test lab to ensure high quality during product development and as a part of continuous quality review.

The test lab is certified by VDE to TDAP standards, underlining the high quality of test processes as well as REC's all-round exactitude in the measurement and the calibration of test equipment. This means that at every stage, REC products are tested to the highest levels of accuracy.

### **ENVIRONMENT + SAFETY**

The first consideration for REC is always to ensure the health and safety of its production and products for employees, for customers and for the environment. To ensure all REC production facilities meet the highest standards, our factories have been certified to:

ISO 14001: 2015 Environmental Management Systems

OHSAS 18001: 2007 Occupational Health and Safety Management



### REC WARRANTY

The best warranty is one you never have to use, and to support REC's high quality, the REC ProTrust Warranty is a premium warranty package that protects our customers in case of a claim.

Offered exclusively by trained **REC** Certifed Solar Professional installers, the unique coverage of the REC ProTrust Warranty gives you greater savings, economic security, and more energy autonomy.



#### PRODUCT

 $Covers panel defects and promises superior quality for at least 20 years. All panels are eligible for a {\tt +5} year product$ warranty extension as part of the RECProTrust Warranty.

Ensures that REC panels perform exactly as expected, **PERFORMANCE** every year for 25 years. Higher warranted power and annual yield, enables greater ROI predictability.

I AROR

Unique to the REC ProTrust Warranty, this gives added protection in the unlikely event of servicing being required.

The table below provides an overview of REC's leading warranty by system size:

REC warranty type	REC PROTRUST WARRANTY		REC STANDARD WARRANTY
Installer group	Exclusive to REC Certified Solar Professional installers		All installers
System size	<25kW	25-500 kW	All
Product Warranty	25 years*	25 years*	20 years
Labor Warranty	25 years°	10 years*	
Performance Warranty	Minimum power in year 1	Year 2-25 maximum annual degradation	Guaranteed % of power in year 25
Performance	Minimum power in	Year 2-25 maximum annual degradation	power in year 25
Performance Warranty	Minimum power in	Year 2-25 maximum	

\*Certain conditions may apply. Installations must be registered via REC SunSnap app or REC Certified Solar Professional Portal to be valid Visit www.recgroup.com/warranty for further details.



SOLAR'S MOST TRUSTED







# SALT MIST RESISTANCE

The higher concentration of salt in coastal environments increases the chance of discoloration and degradation in a solar panel. This can potentially lead to panel breakdown if not properly protected against salt mist.

All REC panels pass the IEC 61701 Severity Level 6 standard, ensuring the highest protection against environmental salt mist conditions.



### 35 MM HAIL RESISTANCE

Hail can cause significant damage to solar panels, breaking the glass and other components which can lead to power loss. REC panels are certified to IEC 61215, including the ability to resist the impact of a hailstone up to 35 mm in diameter and 20.7 g mass. This far surpasses the resistance offered by most competitors of 25 mm diameter at 7.5 g.





## DYNAMIC MECHNICAL LOAD

Strong winds, as well as other common environmental conditions, can have a major impact on the long-term performance of a solar panel

REC certifies all of its panels to IEC 62782, which simulates the effect of strong winds and verifies a panel's high reliability under the different forces seen in real life weather conditions





# AMMONIA RESISTANCE

Ammonia is a caustic gas that can develop in livestock barns. In high concentration, it can cause a chemical reaction which leads to corrosion of surrounding objects and buildings, including solar panels.

All REC panels have passed the IEC 62716 test standard, which ensures resistance to high levels of ammonia concentration in the atmosphere.



# **RESISTANCE TO FIRE**

Fire is incredibly rare in solar panels, and is generally a result of poor installation practices or defective connections. To protect against this, REC certifies its solar panels to all relevant international and local ignitability standards, including:

- UL 790 (modified acc. to UL 61730)
- ISO 11925-2
- UNI 8457 & UNI 9174 (UNI 9177)



# NON-UNIFORM LOADS

A solar installation usually sees the panels installed on an angle. Testing of the panels however, is performed horizontally meaning the load distribution can affect a panel differently to testing.

For this reason, REC certifies its panels to the IEC 62938 standard. This determines a panel's continued high performance under the build-up of loads that are unevenly spread.





2016

DNV-GL

PV MODULE

2017

DNV.GL

PV MODULE IABILITY SCORECAR

2018

DNV.GL

PV MODULE

# PID RESISTANCE

Potential Induced Degradation (PID) is a power loss phenomenon at system level caused by leakage currents and heightened by high voltages, temperatures, and levels of humidity.

By using unique technology, REC was one of the first manufacturers to ensure all of its panels were PID-free. Today, all REC panels pass an enhanced IEC 62804 PID certification, ensuring the highest level of resistance.





# CYCLIC WIND LOADS

Cyclones can cause incredible damage to buildings and turn common objects into dangerous projectiles.

To ensure safety in cyclone regions, REC certifies its panels to AS 40404.2 and NCC 2016 LHL at Australia's premier cyclone testing centre, guaranteeing thorough and comprehensive testing of the panels to ensure they can withstand the worst of conditions.





# TOP PERFORMER RATING

The annual PVEL independent panel testing program sees numerous solar manufacturers and their products put through a series of exacting tests.

Every year since 2016, REC has been rated as a Top Performer, demonstrating the lasting quality promise we make to our customers.





PV MODULE RELIABILITY SCORECARD

Visit www.recgroup.com/certifications to see REC's full range of certificates.

PV MODULE RELIABILITY SCORECARD