

**TAKE YOUR TIME...
WE WILL TAKE CARE OF QUALITY!**

Sunerg Solar

quality as a commitment



www.sunergsolar.com



Sunerg Solar

An Italian history

THE JOURNEY

From the '70s Sunerg solar has come a long way: his is a story of dedication, commitment and passion, a long journey that crossed before Italy, then Europe and facing today in more countries worldwide . This journey tells of how tradition and innovation have always been the keywords of success Sunerg solar and how the everyday challenges have made his company leader in the renewable energy.

1978

Sunerg born in 1978, and immediately undertook to produce materials for sustainable energy, with the goal of creating an excellent product Made in Italy.

Sunerg began manufacturing the first solar collectors for heating water in 1978 branded "Sunerg - Lauri solar systems"



the first solar thermal systems

1987

The first installation of solar collectors for the heating water

1992

The first PV modules produced

2000

Began production of photovoltaic modules, all with checks of the production process for each piece to ensure that the Italian excellence both to its full value.

2004-2011

A positive and encouraging period, due to the progressive trend growth of our turnover has confirmed the expectations and gratified the commitments that we set. Positive trend, which is confirmed also for 2011: Increasing sales did not achieve an increase in turnover compared to 2010 due to the strong depreciation of the PV module. The successful outcome is based on an experience on being on the market for more than 30 years in the field and a production based on quality.

2011-2013

In 2011 Sunerg solar has built a new modern and high technology production line in its new facilities, upgrading production to 100 Mwp/year.

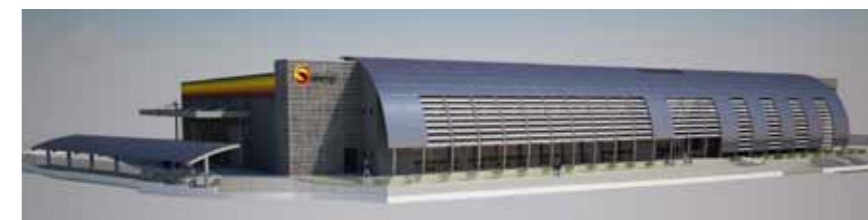
"Made in Italy" culture, based on passion, high quality and customer engagement Between December 2012 and March 2013 we bought a new production line of highly automated in order to:

- Tripling our production capacity;
- Produce your own modules in greater quantity;

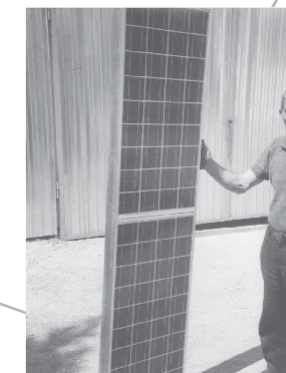
2015

The company is active in the sale of the products, in Italy the company has the highest market share ever achieved by anyone, our production line reaches 100 MW, and our ambition is definitely being able to expand in the future thanks to our commitment and thanks to the quality of our materials that guarantee a long time and safe investment, we will be able to put the important roots also in Europe.

Sunerg is a company that produces and exports solar thermal and photovoltaic made in Italy worldwide.



New headquarters and new manufacturing plant, 100MW per years output production



Mr. Giuseppe Lauri, Company founder, beside a PV module



The headquarters and manufacturing of solar thermal and photovoltaic

made in Italy since 1978

What characterizes Sunerg solar?

What is our mission?

Quality has no price and has no time.



For 40 years Sunerg Solar manufactures and distributes sustainable energy. According to this objective we produce solar modules of excellent quality and system solutions completely made in Italy. Sunerg Solar has taken on the high quality standards Italians, so applying to a standardized certification scheme.

Quality is always the goal of our work and our value. The constant search for perfection is the mission that encourages us every day to improve it; so we guarantee every level of the production process and thorough quality tests in all tests of manufacture so that we can bring to the excellence enclosed in a product.

Aiming to provide quality at the highest level, innovating and evolving characteristics of its products mean the entire value creation chain: from the raw material, silicon, the manufacture of the finished module, cell and solar module. This is one of the key factors of our overall quality.

In our laboratory we examine strictly products and accurate materials as required by international standards. Every single test on each module helps us to improve the quality of our solar modules and to ensure that our factory manufacture only first choice products.

Every day we produce quality so that we constantly improve; turning out to the customer into excellent return and in a very good investment.

Mr. Luciano Lauri
Ceo Sunerg solar Srl

QUALITY AS A MUST

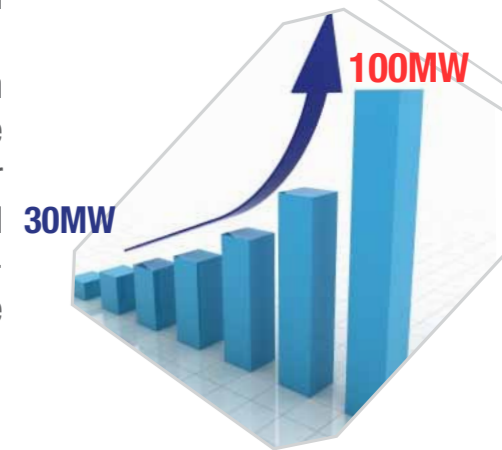
Our modules before being installed go along severe testing to ensure and certified the performance of the best quality. We do not only grant quality of the modules produced in our factory, but we also want quality is recognized and guaranteed by the best independent test institutes.

QUALITY WHICH TRANSLATES INTO:

- Experience: we are proud of the know-how gained in over 35 years allows us to create customer-specific ad hoc projects;
- Reliability: the quality makes the difference of the product, and for this the reason we promote it in all production stages;
- Warranty: ensure “long life”, justified by a build quality at the forefront and in some cases totally Italian.

FULLY AUTOMATED_ PRODUCTION PLANT

Quality of our products is guaranteed to be a fully automated production plant, by a scrupulous monitoring process. So the growth of Sunerg solar is confirmed by a new production line fully automated and technologically advanced PV module that increases its production capacity in the sector 30MW/year upto 100MW/year; in which single cell are strictly controlled and performed to form the final product, each performed on every detail, all ensuring that the quality of our modules grants the long-term increased production.



QUALITY AS A COMMITMENT

Italian excellence evaluated and got important awards worldwide by an external laboratory. The module X-STYLE XP 60/156-230 ranked first in Europe for the yield obtained.

The excellent production of Sunerg Solar is also confirmed by the test campaign that the independent magazine PHOTON has made in their fields of testing of photovoltaic modules, Germany.

In such tests, PHOTON compared the specific production of many PV modules produced by many manufacturers worldwide. The tests continued for a long period, and at each output of a number of the magazine have been reported production data specific to each module.

We report the final results of this trial and a summary of the performance of the module taken from PHOTON.



Tests, September, 2011

Ranking Placement	Manufacturer	Nationality	Models	Production dates	Installed in	Yield/modules surface kWh/m ²	Yield in Pdc kWh/W	Performance Ratio	From the best
1°	Sunpower	USA	SPR-327NF-WHT-D	n.s.	01/2012	228.7	1.144,1	95,2%	-
2°	Sunpower	USA	SPR-320NE-WHT-D	n.s.	01/2012	227.6	1.140,1	94,9%	0,35%
3°	Sunpower	USA	SPR-245NF-WHT-D	n.s.	01/2012	225.3	1.139,4	94,8%	0,42%
4°	Serphim Solar	China	SPR-220-6PB	n.s.	10/2011	156.1	1.125,5	93,9%	1,63%
5°	Yingli	China	YL240P-29b	n.s.	01/2012	169.2	1.118,7	93,1%	2,22%
6°	ET Solar	China	ET-P60240	n.s.	07/2011	161.6	1.115,3	92,8%	2,51%
7°	Sunerg Solar	Italy	XP 60/156-230	2010		154.6	1.115,0	92,8%	2,55%
8°	Silen	Spain	SLK60P6L 230Wp	n.s.	2009	158.0	1.114,2	92,7%	2,61%
9°	Jinko Solar	China	JKM190M-72	2010	07/2011	166.1	1.112,2	92,5%	2,79%
10°	Huanghe Photovoltaic	China	HH230/30P	n.s.	01/2012	157.1	1.112,1	92,5%	2,80%
...20°	Solarworld	Germany	Plus SW 225 mono	2009	03/2010	153.8	1.100,4	91,6%	3,82%
...50°	Mprime Solar	Portugal	M 235P	n.s.	01/2012	162.6	1.087,4	90,5%	4,95%
...70°	Sun Earth	China	TE125x25-22 P 180W ²	until 2010	02/2011	151.6	1.083,0	90,1%	5,34%
...100°	Top Solar	China	TSM72-125M-190W	n.s.	07/2011	155.6	1.071,6	89,2%	6,33%
...151°	Sharp	Japan	NT-R5L3E ²	2003	2005	137.2	949,2	79,0%	17,04%

Source photon.info/laboratory - Sunerg solar placed at 7° rank (5° as a manufacturer company) compared with 151 worldwide manufacturer. The complete Test results is available on the Photon Magazine.

We really believe in Made in Italy development.
“Our trademark”.

made in Italy since 1978

RESISTANCE

Our modules confirm the excellence in the resistance for potential-induced degradation (PID), this effect may 'happen when the module is exposed to high voltages. All our modules have passed the test without this has had no effect on their performance. In addition to this test our modules have excelled test hail and snow load tests for 5400 PA.



Heavy snow load up to 5400 Pa

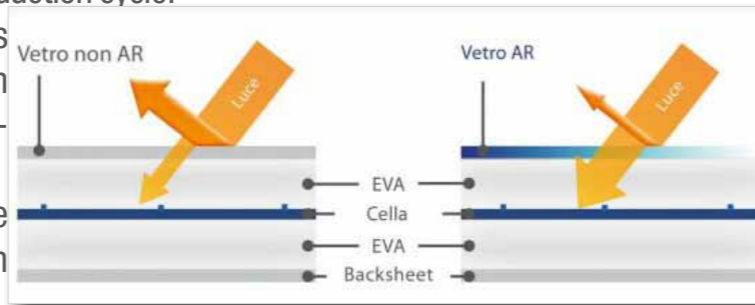


Anti-Hail module surface available



CHECKING THE MATERIAL: GLASS

In our factory only the best goods. Our staff checks individually the various components of the modules so only the best components enter into the production cycle. Glass is passing at first visual test and our staff is checking that there are no defects, such attention is due to the glass, as many installations are extremely stressed, by the snow-load winter. All modules have an anti-reflective glass to ensure that the conversion of energy to both the maximum output and efficiency. Moreover, the special anti-reflective coating layer of the glass helps, then, to optimize performance and to maximize the yield.



Different reaction of light reflection from a glass NOT antireflection (left) and an antireflection (right).

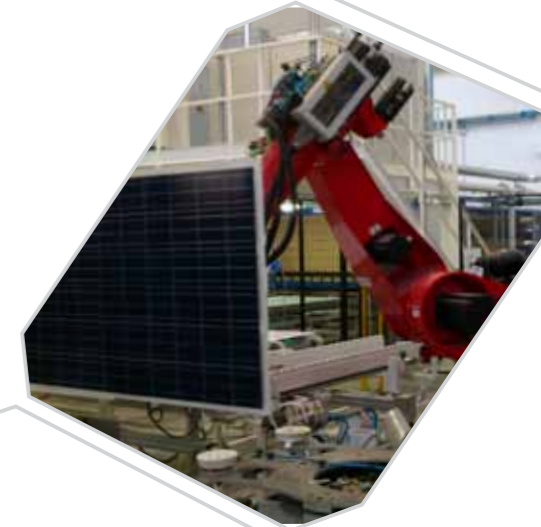
CHECKING THE MATERIAL: FRAME

Our frames are developed, selected, tested and produced in our plant, specially created for every need and with elegant and ergonomic design, to best ensure the grips of the photovoltaic module and ensure better handling.



QUALITY IN PRODUCTION

All steps of the production cycle have strict control and are verified. The laminator, which is a process to determine the quality of our modules is a key factor for performance and durability to the intense stress of the weather. It is a large vacuum oven at high temperature that ensures a perfect integration of solar glass, films and the cells in compactness and stability. Only laminates that will pass the tests will go through the next processing stage.



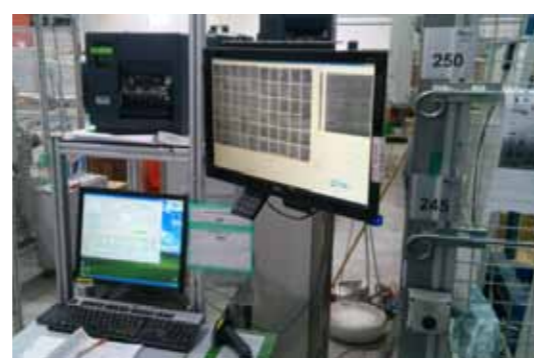
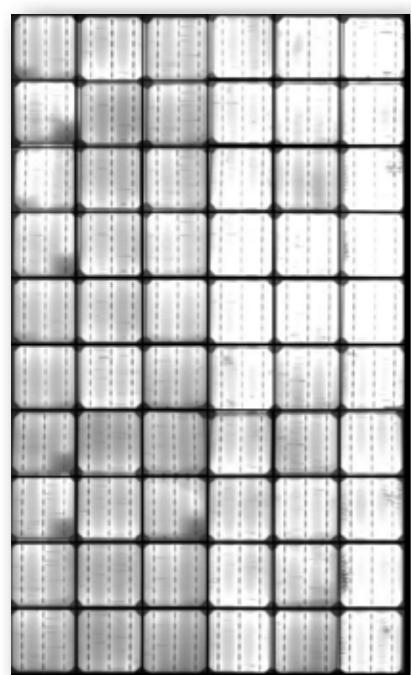
QUALITY OF MATERIALS

Sunerg solar for many years, supplying the necessary materials to the construction of the module by the same supplier. Work between the parties that results in Assurance, security and job continuity over time.



FLASH REPORT_ ELECTROLUMINESCENCE'S TEST

It's a method of detecting photo, which allows you to see in real time all the cells of the module and identify defects potentially dangerous to the power, efficiency and service life of a photovoltaic module. Only at this stage the MICRO FRACTURES can be detected, which are causing limitations and possible reshaping up to detect complete breakdown of one or more cells; the GENERAL DEFECTS, causing a failure of proper operation of the power cells; any IMPURITIES. The test is carried in all the modules that we produce so as to ensure maximum quality and yield of the product that we sell. Through the flasher report is measured the peak power of each module. We make everything to ensure the accuracy of the flash report because an exact measurement guarantees the real rated power of the photovoltaic module, and is guaranteed electrical safety of the same modules. After measurement, the modules are classified according to their power class. The accuracy of the process and the modules that exceed tests allow us to have a linear performance warranty on the power of 25 years and a product warranty of 10 years.



Defects found only with electroluminescence's test.
Tests carried out on every module but not on random.

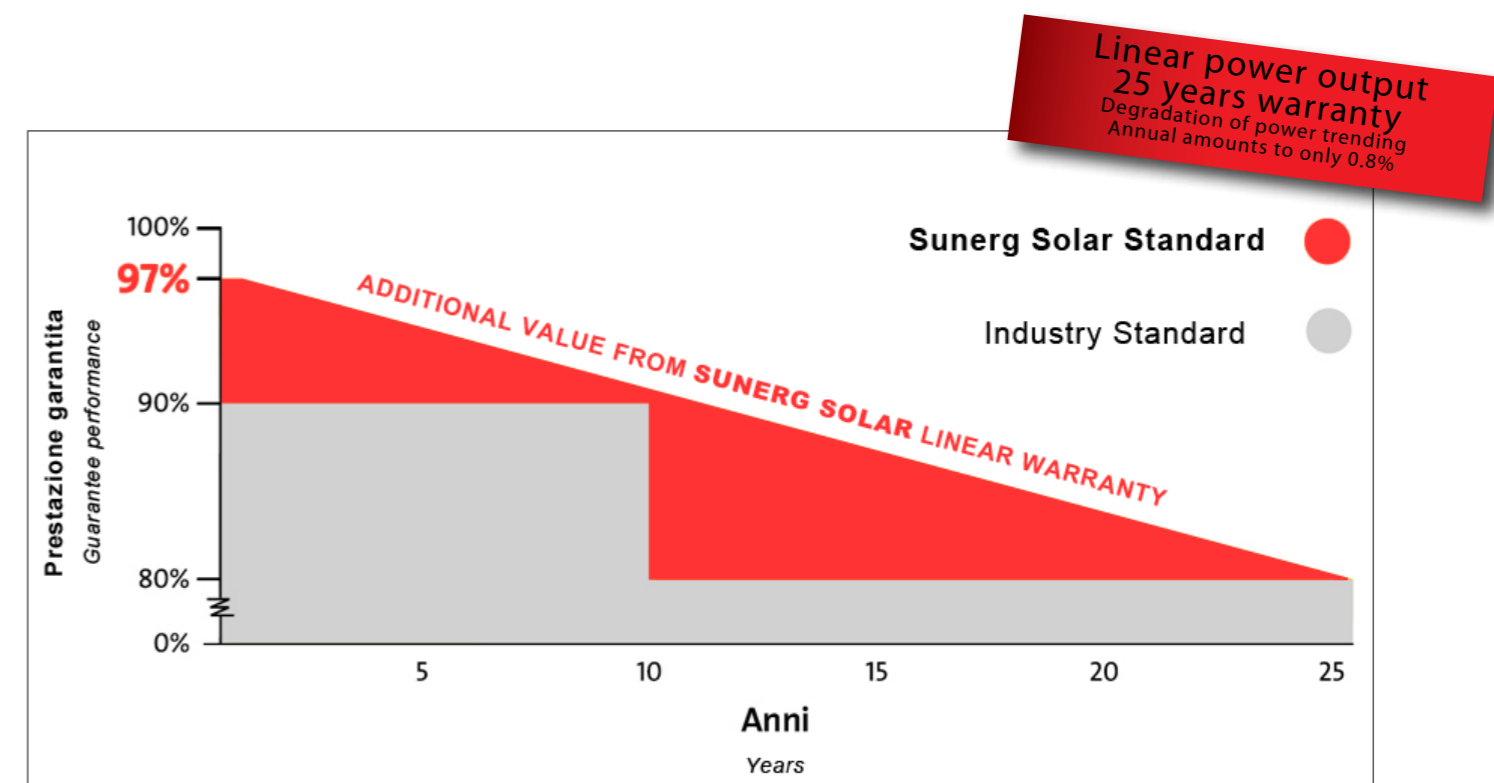
PERFORMANCES

Our quality commitment is reflected in our warranties: for all modules Sunerg solar offer its customers a linear power output warranty of 25 years.

For modules of all the series we offer our customers an additional warranty on the product of 10 years.

Linear performance warranty

- Linear performance warranty of SUNERG SOLAR
- Classic warranty reduction





SUNERG SOLAR R&S certified quality



61215 ED2
61730



QUALITY CERTIFICATION

The PV modules Sunerg monocrystalline and polycrystalline are built with high quality materials tested to guarantee durable electrical performance. All modules are certified by ICIM Spa according to the electrical standards IEC 61215, IEC 61646 and IEC 61730, manufactured according to European CE. Sunerg modules are guaranteed 25 years on the performance of the output power to 80% compared to the initial one and up to 10 years on the product.

Sunerg provides all the components necessary to the installation of complete systems for connection to the electricity grid or isolated end users. Sunerg has several years of experience in photovoltaics. This has led to a selection of the best materials and products in the market and collaboration with the most accredited industry.

The company is certified with ISO 9001, 14001 and OHSAS 18001. Since a long time the company has been implementing and Integrated Management System for Quality, Environment and Safety certificate by KIWA CERMET.

All our PV modules are certified in accordance with standards IEC61215, IEC61646 and IEC61730; their production lines have supported and got the certificate of factory inspection.

The crystalline solar modules have obtained and passed tests for the classification of fire reaction (class 1, UNI9177) August 1, 2011 according to the DPR n. 151 at the Istituto Giordano.



TODAY SUNERG MARKET SHARE 13%



UNI EN ISO 9001:2008

UNI EN ISO 14001:2004

UNI EN ISO 18001:2007

made in Italy since 1978

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