

正信集团

ZNSHINE GROUP



ZNSHINE SOLAR®



BRIGHTMAX®



Company Profile

江苏省常州市金坛直溪工业集中区1号

#1 Zhixi Industry Zone, Jintan, Jiangsu, P.R.C. 213251

DIR: +86 519 8244 9202 FAX: +86 519 8244 2068

www.znshine.com

History



Factories

Zhongshan Zhengxin Lamp Decorating Co., Ltd



- ◆ location: Guangdong
- ◆ occupied area: 30,000 m2
- ◆ employees: 300
- ◆ main products: glass lamp fitting, chandeliers
- ◆ main markets: Europe, Middle East, South America, USA, Asia
- ◆ annual turnover: US dollar 6,000,000
- ◆ ISO9001, RoHS, CE



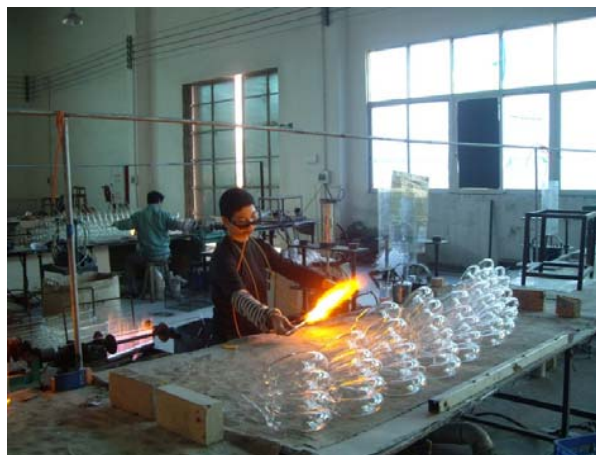
Administration Building



Factory Area



Dormitory



Glass Workshop



Warehouse



Showroom

Factories

Znshine PV-Lighting Co., Ltd



- ◆ location: Jiangsu
- ◆ occupied area: 100,000 m²
- ◆ employees: 500
- ◆ main products: low frequency induction lamps
- ◆ main markets: Europe, South America, USA
- ◆ annual turnover: US dollar 10,000,000
- ◆ ISO9001, CE, CCC, UL



Group Headquarter



Administration Building



Factory Area



Lamp Workshop



Assembling Lines



Test Laboratory

Factories

Znshine PV-Tech Co., Ltd



- ◆ location: Jiangsu
- ◆ occupied area: 100,000 m²
- ◆ employees: 600
- ◆ main products: ingots, wafers, solar panels, solar lights, solar power systems
- ◆ main markets: Europe, USA
- ◆ annual turnover: US dollar 100,000,000
- ◆ ISO9001, CE, IEC, TUV, UL



Administration Building



QC Work



Test Laboratory



Ingot Workshop



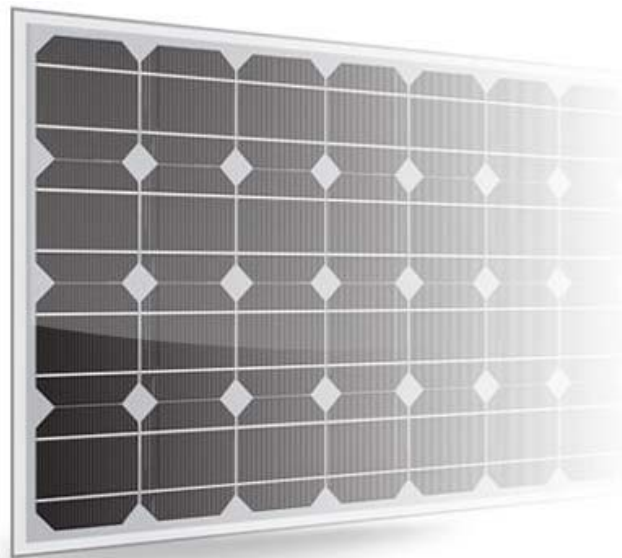
Wafer Workshop



Module Workshop

Why you choose ZNSHINESOLAR?

Where there is sunshine, there is znshinesolar



SOLAR
PANEL

Introduction | EVERY KIND OF PANEL YOU NEED

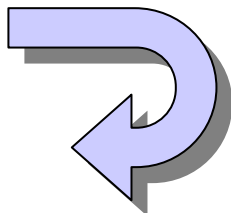


- ◆ Vertical Integration
- ◆ Strong R&D Team
- ◆ Innovative Production Technology
- ◆ Automatic Production Line
- ◆ Integrated QC System
- ◆ TUV, IEC, CE certificates
- ◆ International Insurance
- ◆ Europe Office and Warehouse
- ◆ Success Reference

Vertical Integration

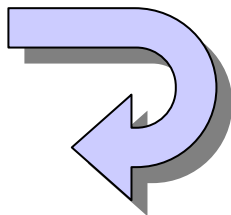


ZNSHINE group has successfully developed into a leader in the PV industry based on its strong vertically integrated business model, producing its own ingots, wafers, cells and modules in-house. The control and efficiency achieved from this integrated value chain helps to continuously improve the production process as well as ensure high quality and cost-effective products to our customers



R&D Team

- 50 technical staffs
- 3 doctor degree holders
- 15 master degree holders
- 10 professional system integration engineers



Znshine adds “GA” instead of “Boron” into the ingot manufacturing process, and the new technology reduces the power decay.

SOLAR MODULE DECAY

Years	Pmax Normal (W)	Rated of Decay (%)	Pmax Znshine (W)	Rated of Decay (%)
0	175	0%	175	0%
5	161	8%	170	3%
10	153	13%	166	5%
15	145	17%	164	6%
20	140	20%	161	8%
25	135	23%	158	10%

Model: ZXMI75W36V

Pmax: 175W

Vpm: 36.0V

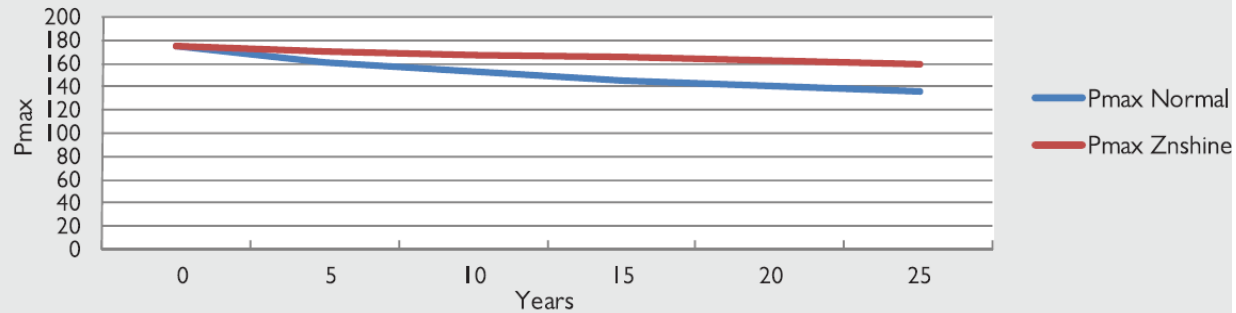
Imp: 4.86A

Voc: 44.8V

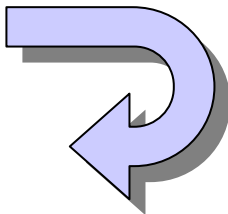
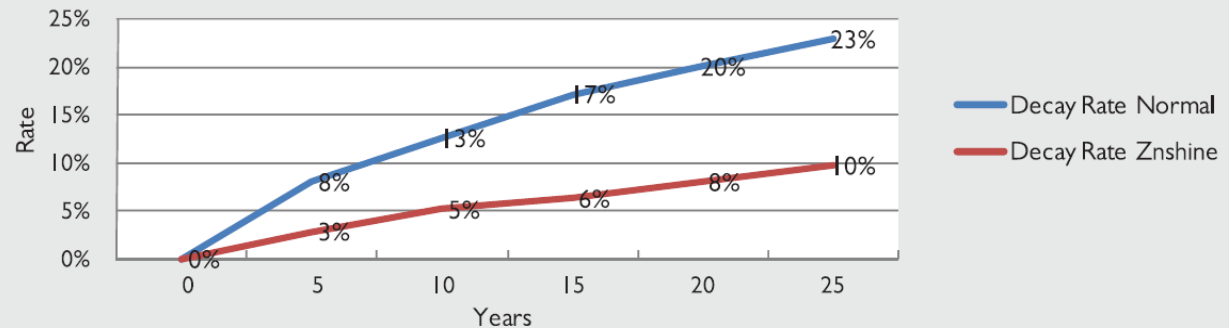
Isc: 5.17A



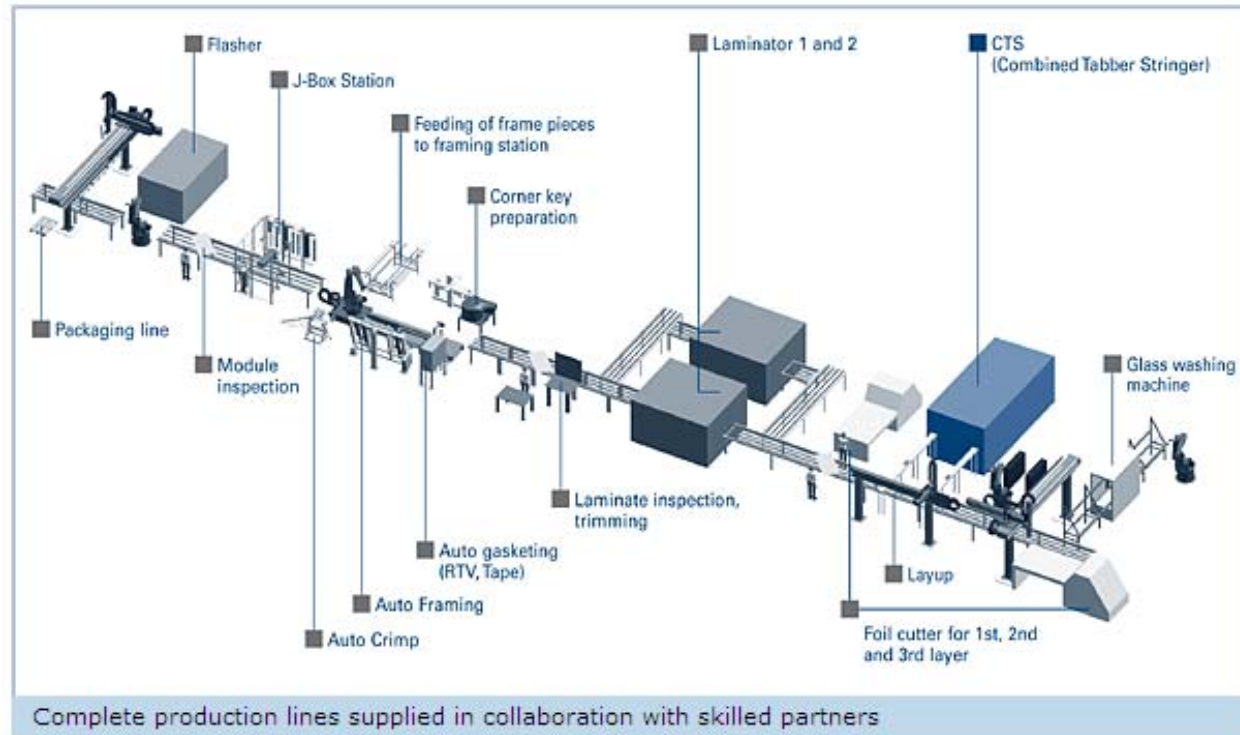
SOLAR MODULE Pmax DECAY



RATED OF DECAY



■ Turnkey systems from one company



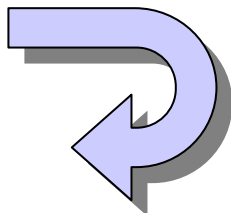
9 automatic production lines with output capacity 200MW yearly

Stringer Technology
Intelligent and safe automation.



STRINGER TT1200 → 1200 cycles/hour

Full-automatic solar laminator (RDCY—Z Series)



■ Manufacturing of high quality products with integrated test technology

In order to make our products more competitive, Znshine has established a strict quality control system. We have equipped advanced inspection machines according to the CE, IEC, TUV, UL standard. Also in the past years, a professional QC team was established and every detail in the manufacturer process is controlled. Pursuing the best quality is our belief.



MS203 wafer tester
(Resitivity, thickness ,TTV)



XJCM-9 solar cell tester (AAA)



High and low temperature tester



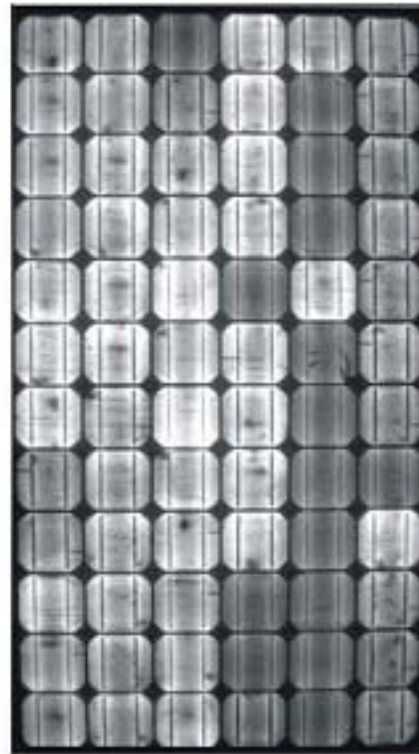
Life time tester (SEMILAB WT-1000)



ISO 9001:2000

Testing with camera system

- damages on the cells
- position of ribbons
- straightness of string



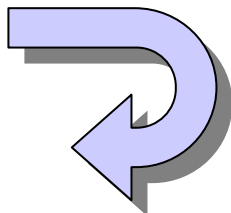
Electrical testing

- Output (with Berger Test Systems, for example)
- Measuring of current or power of the string



Class A solar simulator according to IEC 904-9

- Xenon flash with Class A spectrum
- Class A (+/- 2 %) irradiance uniformity
- Irradiance and temperature corrections according to IEC 891





VERIFICATION OF EMC COMPLIANCE

No.: SHEMO10030021801TXC
Applicant: Zshine PV-Tech Co., Ltd
1# Zhixi Industry Zone, Jintan, Jiangsu, China
Manufacturer: Zshine PV-Tech Co., Ltd
1# Zhixi Industry Zone, Jintan, Jiangsu, China
Product Description: Solar module
Model No: ZX Series
Technical Data: 1W-300W
Sufficient samples of the product have been tested and found to be in conformity with
Test Standard: EN 61000-6-1:2007
EN 61000-6-3:2007
as shown in the
Test Report Number(s): SHEMO10030021801

This verification of EMC Compliance has been granted to the applicant based on the results of the tests, performed by laboratory of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. on the sample of the above-mentioned product in accordance with the provisions of the relevant specific standards and Directive 2004/108/EC. The affixing of the CE marking presumes in addition that the conditions in annexes III and V of the Directive are fulfilled.



Tina Pan
E&E Section Manager
SGS-CSTC

March 15, 2010

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Member of SGS Group (Société Générale de Surveillance)

Note: You may contact us to validate this document by email address: en.shanghai@sgs.com

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SGSPAPER
09622738



VERIFICATION OF EMC COMPLIANCE

No.: SHEMO071000240TXC
Applicant: ZNSHINE Technology of Renewable Energy Co., Ltd.
#1 Zhixi Industry Zone, Jintan, Jiangsu, P.R. China 213251
Manufacturer: ZNSHINE Technology of Renewable Energy Co., Ltd.
#1 Zhixi Industry Zone, Jintan, Jiangsu, P.R. China 213251
Product Description: Solar Module
Model No: ZX
Technical Data: 1W-300W
Sufficient samples of the product have been tested and found to be in conformity with
Test Standard: EN 61000-6-1: 2001+1991: 2005
EN 61000-6-3: 2001+A11: 2004
as shown in the
Test Report Number(s): SHEMO071000240TX

This verification of EMC Compliance has been granted to the applicant based on the results of the tests, performed by laboratory of SGS-CSTC Standards Technical Services Co., Ltd. on the sample of the above-mentioned product in accordance with the provisions of the relevant specific standards and Directive 2004/108/EC. The affixing of the CE marking presumes in addition that the conditions in annexes III and V of the Directive are fulfilled.



Tina Pan
E&E Section Manager
SGS-CSTC

October 10, 2007

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SGSPAPER
06809124



CE for PV modules from 3W-300W



 **TÜVRheinland®**
Precisely Right.

Certificate

Registration No.: PV 60025808 Page 1 Report No.: 15032284.001

License Holder: ZNSHINE PV-Tech Co., Ltd. #1 Zhai Industry Zone Jintan, Jiangsu China	Product: PV Module Type: ZX155(34)M; ZX160(34.5)M; ZX165(35)M; ZX170(35.5)M; ZX175(36)M; ZX180(36)M; ZX185(36)M; ZX175(38.5)M; ZX180(39)M; ZX185(39.5)M 9" mono with 72 cells, 150mm*808mm*45mm
Manufacturing Plant: ZNSHINE PV-Tech Co., Ltd. #1 Zhai Industry Zone Jintan, Jiangsu China	ZX200(40)M; ZX205(40)M; ZX200(46)M; ZX205(46.5)M; ZX210(47)M; ZX215(47.5)M; ZX220(48)M; ZX225(48)M; ZX230(48)M; ZX235(48)M; ZX240(48)M; 5" mono with 96 cells, 1575mm*1082mm*45mm

Basis:

☒ **IEC 61215:2005**
EN 61215:2005
"Crystalline silicon terrestrial photovoltaic (PV) modules - Design qualification and type approval"

☒ **Factory Inspection**
To document the consistent quality of the product factory inspections are performed periodically.


www.tuv.com
TÜVRheinland
ID: 000024660

- Qualified, IEC 61215
- Periodic inspection

Remarks:
The details of the factory inspection are documented in report no. 153031388.001.

Conditions:
The product test is voluntarily according to technical regulations. Any change of the design, materials, components or processing may require the repetition of some of the qualification tests in order to retain type approval.
The certificate has a validity of 3 years counting from date of issue.

Cologne, 1 July 2009

TÜV Rheinland Product Safety GmbH, Am Grauen Stein, D-51105 Cologne


Dipl.-Ing. M. Adrian



 **TÜVRheinland®**
Precisely Right.

Certificate

Registration No.: PV 60025985 Page 1 Report No.: 15032285.001

License Holder: ZNSHINE PV-Tech Co., Ltd. #1 Zhai Industry Zone Jintan, Jiangsu China	Product: PV Module Type: ZX155(34)M; ZX160(34.5)M; ZX165(35)M; ZX170(35.5)M; ZX175(36)M; ZX180(36)M; ZX185(36)M; ZX175(38.5)M; ZX180(39)M; ZX185(39.5)M 9" mono with 72 cells, 150mm*808mm*45mm
Manufacturing Plant: ZNSHINE PV-Tech Co., Ltd. #1 Zhai Industry Zone Jintan, Jiangsu China	ZX200(40)M; ZX205(40)M; ZX200(46)M; ZX205(46.5)M; ZX210(47)M; ZX215(47.5)M; ZX220(48)M; ZX225(48)M; ZX230(48)M; ZX235(48)M; ZX240(48)M; 5" mono with 96 cells, 1575mm*1082mm*45mm

Basis:

☒ **IEC 61730-1:2004**
IEC 61730-2:2004
EN 61730-1:2007
EN 61730-2:2007
"Photovoltaic (PV) module safety qualification"

☒ **Factory Inspection**
To document the consistent quality of the product factory inspections are performed periodically.


www.tuv.com
TÜVRheinland
ID: 000024660

- Qualified, IEC 61215
- Safety tested, IEC 61730
- Periodic inspection

Remarks:
- IEC EN 61730 consists of part 1 (Requirements for construction) and part 2 (Requirements for testing).
- The above listed PV modules fulfil the requirements of Application Class A (Safety Class II). They may be used in PV plants at a maximum system voltage (V_{oc} of STC) of up to 1500 VDC.
- The fire test (IEC 61730-2 / MDT 2) was not performed.
- The details of the factory inspection are documented in report no. 153031388.001.

Conditions:
The product test is voluntarily according to technical regulations. Any change of the design, materials, components or processing may require the repetition of some of the qualification tests in order to retain type approval.
The certificate is valid until 1 July 2014.

Cologne, 13 July 2009

TÜV Rheinland Product Safety GmbH, Am Grauen Stein, D-51105 Cologne


Dipl.-Ing. M. Adrian



TUV for Mono-crystalline PV modules

ZERTIFIKAT ♦ CERTIFICATE ♦ 證書 ♦ CERTIFICADO ♦ CERTIFICAT



Product Service

CERTIFICATE

No. Z2 10 06 73899 001

Holder of Certificate: ZNShine PV-tech Co., Ltd.
 #1 Zhiui Industry Zone,
 213251 Jintan, Jiangsu,
 PEOPLE'S REPUBLIC OF CHINA

Certification Mark:



Product: Crystalline Silicon Terrestrial Photovoltaic (PV) Modules
 Poly-Crystalline Silicon Photovoltaic Module

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition the certification holder must not transfer the certificate to third parties. See also notes overleaf.

Test report no.: 704060990401-00



Date: 2010-06-11
 Page 1 of 2



TÜV SÜD Product Service GmbH · Zertifizierungsstelle · Ridlerstraße 65 · 80339 München · Germany

TUV®

ZERTIFIKAT ♦ CERTIFICATE ♦ 證書 ♦ CERTIFICADO ♦ CERTIFICAT



Product Service

CERTIFICATE

No. Z2 10 06 73899 001

Model(s): ZX200(30)P, ZX205(30)P, ZX210(30)P, ZX215(30)P, ZX220(30)P, ZX225(30)P, ZX230(30)P, ZX235(30)P, ZX240(30)P, ZX245(30)P, ZX245(36)P, ZX250(36)P, ZX255(36)P, ZX260(36)P, ZX265(36)P, ZX270(36)P, ZX275(36)P, ZX280(36)P, ZX285(36)P, ZX290(36)P, ZX295(36)P.

Parameters:

Rated Output Power at STC:	200 W, 205 W, 210 W, 215 W, 220 W, 225 W, 230 W, 235 W, 240 W, 245 W, 245 W, 250 W, 255 W, 260 W, 265 W, 270 W, 275 W, 280 W, 285 W, 290 W, 295 W.
Construction:	Framed, with junction box, cable and connectors.
Test Laboratory:	Yangzhou Opto-Electrical Products Testing Institute No. 10 West Kaifu Road, Yangzhou, 225009 Jiangsu, P. R. China
Application Class:	Class A
Maximum System Voltage:	1000 V DC

Remark: (*) Fire Test MST 23 was not performed.

Tested according to: IEC 61215:2005
 EN 61215:2005
 IEC 61730-1:2004
 EN 61730-1:2007
 (*) IEC 61730-2:2004
 EN 61730-2:2007

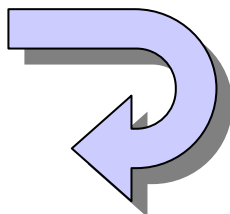
Production Facility(ies): 73899 

Page 2 of 2

TÜV SÜD Product Service GmbH · Zertifizierungsstelle · Ridlerstraße 65 · 80339 München · Germany

TUV®

TUV for Poly-crystalline PV modules





CERTIFICATE OF INSURANCE

THIS IS TO CERTIFY that the COMPANY named herein has issued, to the Insured named herein, policies of Insurance which provide, subject to the Insurance Agreement, exclusions, conditions and obligations contained therein, and during their effective period, coverage as described below:

1. Name and Address of Insured: **ZHSHINE SOLAR EUROPE S.A.**
Via Garibaldi 37, 00173 Rome

2. The **CHARTIS EUROPE S.A.** is the Insurer for all coverages listed below:

4. Policies in Force:

COVER
Professional Indemnity
Automobile Liability
Property Damage
Liability (Other than Bodily Injury/Property Damage)
Product Liability
Employer's Liability

NOTE: 1. Liability
2. Auto
3. C

5. Description
6. The amount
7. This certificate
8. Date of issue



ORIGINAL



Certificate of Insurance

Cert. No.: PKC20000209/2010-031

This is to certify that the following insurance has been effected with Zurich Insurance Company Limited Beijing Branch. This risk insured is covered by Zurich Insurance Company Limited Beijing Branch subject to the terms and conditions of the policy. This Certificate is issued as a matter of information only and the evidence of the insurance of the said policy and does not extend, amend or alter the coverage of the said policy. Loans should may have been reduced or exhausted by claim payment.

Certificate Holder: 1. Zhushen Technology of Renewable Energy Co., Ltd.
2. Zhushen PV-TECH Co., Ltd.

Address: No. 1, Zhi Industry Zone, Jiangsu, P.R.C.

Policy Name

Policy Type

Policy Form

The Insured

Correspond

Address

Nature of B

Period of In

Retentive

Insured Pro

Line of Li

Geographic

Zurich Insurer

Signature

The Certified

Underwritten

Certificate

Name of Module Manufacturers:
Zhushen Technology of Renewable Energy Co., Ltd.
Zhushen PV-TECH Co., Ltd.
Address: No. 1, Zhi Industry Zone, Jiangsu, P.R.C.
Zhushen Solar Europe S.r.l.
(Address: Via Garibaldi, 37 00173 ROMA, Italy)

Certificate No.: SP0901120003

Product Quality Warranty Insurance

Policy No.: PB0200031011600000011 issued by CICIC

Scope of Coverage: The Insurer will indemnify the Insured against its legal liability of repair or replacement of the solar modules manufactured and sold by the Insured, limited to the liability of product quality itself and within the limit of liability stipulated in the Policy.

Indemnity Clauses: (1) From the date of sale to customers, the Insured warrants, within a period of two (2) years, any defects of a module in material and/or workmanship under normal conditions. (2) From the date of sale to customers up to the end of 10 years, the Insured warrants repair and replacement if the Power Output of their PV-module is less than 90% of the minimum Peak Power stated in the Product Flash Data Sheet due to cause not otherwise excluded. (3) From the date of sale to customers up to the end of 25 years, the Insured warrants repair and replacement if the Power Output of their PV-module is less than 80% of the minimum Peak Power stated in the Product Flash Data Sheet due to cause not otherwise excluded.

Insurers:
China Continent Property & Casualty Insurance Co., Ltd. (CCCIC)
China Pacific Property Insurance Co., Ltd. (CPIC)
Ping An Property & Casualty Insurance Co., Ltd. (Ping An)
Datong Insurance Co., Ltd. of China (DICC)
Sunshine Property & Casualty Insurance Co., Ltd. (Sunshine)
Cathay Insurance Co., Ltd. (Cathay)

This certificate confirms that, with specified insurance underwriters and corresponding policy numbers, the company named above is covered by the range of insurance coverage shown above and under the terms, provisions and conditions set out in their insurance plan. The terms, provisions and conditions are outlined in full in the plan's policy wording.

Confirmation and inquiry line:
Telephone number (China): +86 21 5835 1808 x108 (Mobile) 86 (0)13818037353
Website: www.spib.com.cn

Lee Wang
Vice General Manager
Issue date: 2010/4/21

太阳能电池生产企业产品责任保险证明
CERTIFICATE OF PRODUCTS
LIABILITY INSURANCE

Ref. No:SECI-P080000208

有效期限: Valid to: April 17th, 2009
企业名称: 江苏正信新能源科技有限公司 金坛正信光伏电子有限公司
Holder: Zhushen Technology of Renewable Energy Co., Ltd. ZHSHINE PV-Tech Co., Ltd.

太阳能电池生产企业产品质量保险证明
CERTIFICATE OF PRODUCT QUALITY
WARRANTY

Ref. No:PB0200031011600000011

有效期限: Valid to: April 17th, 2009
企业名称: 江苏正信新能源科技有限公司 金坛正信光伏电子有限公司
Holder: Zhushen Technology of Renewable Energy Co., Ltd. ZHSHINE PV-Tech Co., Ltd.

产品规格/型号: 太阳能组件, 太阳能电池板
Product: SOLAR CELL, SOLAR MODULE
产品生产日期: From Oct 1st, 2007
Retrospective Date of Product: 10 years

生产基地: #1 Zhushen Industry Zone, Jiangsu, P.R.C.
Manufacturing: 213211, Jiangsu, P.R.C., China
Warranty Style: Insurance of Product Quality

保险范围: China Continent Property & Casualty Insurance Company Ltd. China Pacific Property Insurance Co., Ltd.

保险范围: Ping An Property & Casualty Insurance Company of China, Ltd. Sunshine Property & Casualty Insurance Co., Ltd.

保险范围: The Ming An Insurance Co.(China) Ltd.

From the date of sale to customer up to the end of 25 years, the Insured warranted that if the Power Output of their Photovoltaic PV-module is less than 80% of the minimum Peak Power stated in the data sheet due to cause not otherwise excluded.

备注: 在本证明文件有效期内, 该企业所生产、销售的以上产品均由以上保险公司提供以上质量保证书的质量保障。该企业在产品制造和销售过程中, 应遵守以上质量保证书内的质量保证。

Within the valid period, all the aforementioned products of the Holder are covered by the Product Quality Insurance Policy issued by the Insurers above. The Holder has committed itself to the automatically renewable policy in succession.

授权签署: Authorized Signature
Date: May 1st, 2008
Signature: [Signature]
Chief Risk Manager

如果本证明或保单与保单或保单附件不一致, 应以保单或保单附件为准。
If you wish to read and more about our services or a list of exclusions of this policy please log onto our official website at www.chinacontinent.com

上海至信新能源科技有限公司 Address Insurance Brokers & Consultants Co., Ltd.
100, Tower 2, East Plaza, No.101, Pudong Avenue, Shanghai 200120, P.R.C. Tel: (86 21) 5179 7011 Fax: (86 21) 5179 7008

- Limited Product Quality Warranty: 10 years repair, replacement or refund remedy
- Limited Product Liability Warranty: 10% peak power decay after 10 years and 20% peak power decay after 25 years.



Europe Warehouse

Konsul- Smidt- Str. 8 b 28217 Bremen
(Germany)

5 containers stock of panels with high
efficient logistic

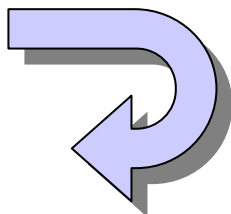
Mergenthalerallee 77 65760 Eschborn Germany
Tel:+49-151 2511 5886
Fax:+49-40 1805 7752
Email: jiang@znshine.com

8, Quai Paul Riquet 34200 Sete, France
Tel:+33-467 807 350
Fax:+33-467 807 359
Email: france@znshine.com.cn

50KM PATRAS-AGRINIO GREECE
Tel:+30 26320 22080-1
Fax:+30 26320 23334
Email: greece@znshine.com.cn

VIA GIRIFALCO N°37-00173 roma Italy
Tel:+39-0672498390
Fax:+39-0672911035
Email: chiara@znshine.com

Korte Braamstraat 45 2900 Schoten Belgium
Tel:+32-036403950
Fax:+32-036403959
Email: info@solarpowersystems.be



Projects

Roof-top System



Bologna, Italy
70kWp 305 panels*230Wp



Werminval, Belgium
76kWp 330 panels*230Wp



Bremerhaven Bus, Germany
738 kWp 4100 panels*180Wp



Agrinio, Greece
38.88kWp 155 panels*250Wp

PV Plant



● El Cuervo Chico Photovoltaic Power Plant

Location: road N-IV, Km 616 Jerez de la Frontera, Cádiz, Spain

Installation Date: 2008.9.

System Size: 20MW

Znshinesolar: 2MW (mono 175W)

● Jiming Hill, Xuzhou City PV Power Plant

Location: Jiming Hill, Xuzhou City, Jiangsu province, China

Installation Date: 2010.1.

System Size: 20MW

Znshinesolar panels: 3MW (mono 175W)

Introduction to ZNSHINE GROUP

Established in 1988, We, ZNSHINE are now playing a more and more important role in the PV and energy saving area.

Nowadays, Znshine produces mono solar ingots, solar wafers & solar modules. The annual output is 12,000,000 pcs mono wafers and 60 MW solar modules. Znshine also produces "Induction light" with its own brand BRIGHTMAX.

ZNSHINE group has always been emphasizing quality in every detailed production process and endeavoring to become a giant and professional PV products manufacturer in the world.



Vertical Integration

ZNSHINE group has successfully developed into a leader in the PV industry based on its strong vertically integrated business model, producing its own ingots, wafers, cells and modules in-house. The control and efficiency achieved from this integrated value chain helps to continuously improve the production process as well as ensure high quality and cost-effective products to our customers.

Solar power system



Higher Efficiency

The excellent performance of these materials hints at still higher efficiency in future solar cells.



Where there is sunshine, there is znshinesolar