

## **ENF Solar Assessed Supplier**

Assessment Report Presented to:

Ningbo Ulica Solar Science & Technology Co., Ltd.  
宁波尤利卡太阳能科技发展有限公司

Service Commissioned by:



Service Provided by:



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## Introduction

This report has been commissioned by ENF Solar – the world’s most visited solar website. Inspections have been undertaken by TÜV Rheinland – a testing service provider who have been testing solar components since 1985. TÜV Rheinland is part of TÜV Rheinland Group, a technical services company established in 1872 and employing 17,000 staff around the world.

To make these reports, TÜV Rheinland sends inspectors directly to the factories to collect data, take pictures and check documents.

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## Audit Overview

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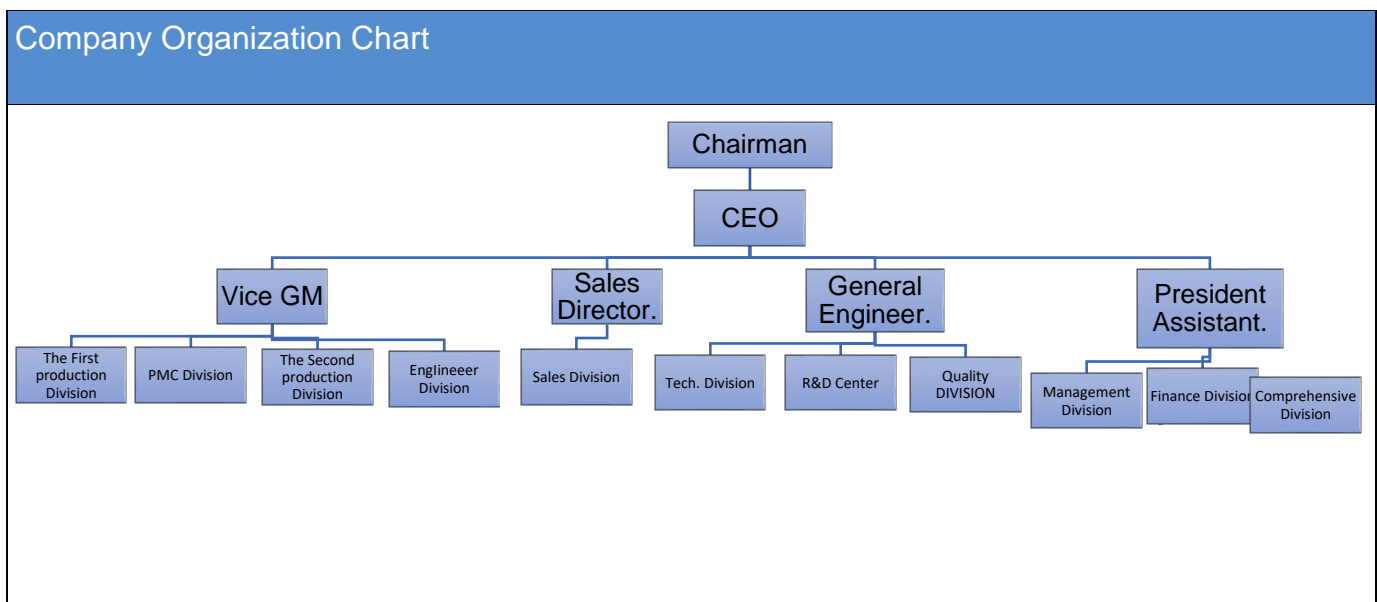
## Company Overview

Identification	Details		
Company Name	Ningbo Ulica Solar Science & Technology Co., Ltd.		
Facility address	No. 181, Shanshan Road, Wangchun Industrial Area, Haishu District, Ningbo City, Zhejiang Province, China		
	Contact Person :	Mr. Chaosheng Ma	
	Tel:	0086-574-28828955	
	Fax:	0086-574-28828955	
	E-mail:	lamprosm@shanshan.com	
URL/Web Address	www.enf.com.cn		
Report Date	17/Sep./2018		
Expiry Date (24 months validity)	16/Sep./2020		
Name of Assessor	Mr. Jongson Yuan		
Overall Turnover of Last Year	Confidential		
Total Building Size	22,000 m <sup>2</sup>		
Number of Buildings	2		
Office Size	2,000 m <sup>2</sup>		
Working Day	Mandy to Friday	Working Hours	8 Hours

## Legal Entity

Legal Entity			
Business License Number	913302127782230458		
Year Established	10/Aug./2005	Validity Period:	10/Aug./2005 -- 09/Aug./2025
Registered Address	No. 181 -- 197, Shanshan Road, Wangchun Industrial Area, Haishu District, Ningbo City, Zhejiang Province, China		
Company Address	No. 181, Shanshan Road, Wangchun Industrial Area, Haishu District, Ningbo City, Zhejiang Province, China		
Registered Capital	RMB 143,750,000		
Corporate Representative	Mr. Minglai Wang		
Industry	Solar Cells, PV Panel		
Products /Service	Solar Cell, PV Moudle		
Business Type	<input type="checkbox"/> Manufacturer	<input type="checkbox"/> Trading Company	<input checked="" type="checkbox"/> Combined
Type of Ownership	<input type="checkbox"/> Private Owner	<input type="checkbox"/> Public Company	<input type="checkbox"/> Joint Venture
	<input type="checkbox"/> Stated Owned	<input type="checkbox"/> Sole Proprietorship	<input checked="" type="checkbox"/> Other

## Human Resources



Department Name	Full Time Employee(s)	Part-Time Employee(s)	Total
Chairman	1	0	1
CEO	1	0	1
Vice GM	1	0	1
Sales Director	1	0	1
General Engineer	1	0	1
President Assistant	1	0	1
The First production Division	83	0	83
PMC Division	4	0	4
The Second production Division	107	0	107
Engineer Division	16	0	16
Sales Division	15	0	15
Tech. Division	9	0	9
R&D Center	2	0	2
Quality Division	45	0	45
Management Division	1	0	1
Finance Division	8	0	8
Comprehensive Division	17	0	17
<b>Totals</b>	<b>313</b>	<b>0</b>	<b>313</b>

## Export Business Capacity

### Current Export Situation

There are 15 foreign trading employees in the company.

Working Experience	Headcount
Over 30 Years	0
21-30Years	0
11-20 Years	4
6-10 Years	3
2-5 Years	5
Less than 2 years	3

Accepted Language	Listening & Speaking	Reading & Writing
English	Yes	Yes
Japanese	Yes	Yes
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Does the company have a valid export license?	<input checked="" type="checkbox"/> Yes Export License Registration No.: 02853563			<input type="checkbox"/> No
Trade Agents Employed Overseas	<input type="checkbox"/> Yes			<input checked="" type="checkbox"/> No
Nearest Port	Ningbo Port, Shanghai Port			
Accepted Payment Terms	<input checked="" type="checkbox"/> FOB	<input checked="" type="checkbox"/> CIF	<input checked="" type="checkbox"/> EXW	<input checked="" type="checkbox"/> CFR
Accepted Payment Types	<input checked="" type="checkbox"/> L/C	<input checked="" type="checkbox"/> T/T	<input type="checkbox"/> Credit Card	<input checked="" type="checkbox"/> Cash
	<input type="checkbox"/> West Union	<input type="checkbox"/> Money Gram	<input type="checkbox"/> Paypal	<input type="checkbox"/> Money booker
Average lead time from product order confirmation to production delivery (products exiting the company)	7 -- 15 Days			

### Market Distribution (Previous 12 Months)

Market	Main Product(s)	Total Revenue (%)
North America	N/A	0
South America	Solar Cell, PV Module	5

Eastern Europe	Solar Cell, PV Module	5
Southeast Asia	Solar Cell, PV Module	5
Africa	N/A	0
Oceania	Solar Cell, PV Module	5
Middle East	Solar Cell, PV Module	4
Eastern Asia	Solar Cell, PV Module	20
Western Europe	Solar Cell, PV Module	5
Central America	Solar Cell, PV Module	2
Northern Europe	Solar Cell, PV Module	5
Southern Europe	Solar Cell, PV Module	5
South Asia	Solar Cell, PV Module	4
Domestic Market	Solar Cell, PV Module	35




## Product Capabilities

Production Capacity		
Product Name	Production Line Capacity (Monthly)	Actual Units Produced (Previous Year)
Solar Cell	38 MW / Month	352 MW
PV Module	38 MW / Month	352 MW

Production Machinery			
Key Machine Name	Brand & Model No.	Quantity	Condition
Solar Cell + Texture Machine	RNQXJ-1300, 56-10-0782, 56-10-0698	6	Good
Solar Cell + Diffusion furnace	E2000HT300-5	4	Good
Solar Cell + Etch Machine	No Information	2	Good
Solar Cell + PECVD Machine	E2000HT410-4	4	Good
Solar Cell + Screen Printing Machine	Soft Line, Hard Line	4	Good
Solar Cell + Firing Machine	No Information	4	Good
PV Module + Cell Soldering Machine	No Information	6	Good
PV Module + Cells Layout Machine	SL-200+LU-400	11	Good
PV Module + Lamination Machine	CYY-2236DGM, CYY-3623DGM	14	Good
PV Module + Framing Machine	PY-FM1	13	Good
PV Module + Junction Box Fixing Machine	No Information	2	Good
PV Module + Sealant Curing Machine	No Information	2	Good
PV Module + Output Soring	No Information	2	Good

<b>Solar Cell + Texture Machine</b>	<b>Solar Cell + Diffusion furnace</b>	<b>Solar Cell + Etch Machine</b>
		
<b>Solar Cell + PECVD Machine</b>	<b>Solar Cell + Screen Printing Machine</b>	<b>Solar Cell + Firing Machine</b>
		
<b>PV Module + Cell Soldering Machine</b>	<b>PV Module + Cells Layout Machine</b>	<b>PV Module + Lamination Machine</b>
		
<b>PV Module + Framing Machine</b>	<b>PV Module + Junction Box Fixing Machine</b>	<b>PV Module + Sealant Curing Machine</b>
		

PV Module + Output Spring	N/A	N/A
	N/A	N/A

**Key Testing Machinery**

Machine Name	Brand & Model No.	Quantity	Condition
Solar Cell + Testing & Sorting Machine	APPLIED MATERTALS	4	Good
Solar Cell + Visual Inspection Machine	XRDS-268	1	Good
PV Module + Visual & EL Inspection Machine	HONGRUIDA	2	Good
PV Module + Flash Testing Machine	MEIYEBOGÉ	2	Good
PV Module + Hi-pot Insulation Testing Machine	HONGRUIDA	2	Good
PV Module + EL Testing Machine	HONGRUIDA	2	Good

Solar Cell + Testing & Sorting Machine	Solar Cell + Visual Inspection Machine	PV Module + Visual & EL Inspection Machin
		



<p><b>Solar Panel + Flash Testing Machine</b></p>	<p><b>PV Module + Hi-pot Insulation Testing Machine</b></p>	<p><b>PV Module + EL Testing Machine</b></p>
		

**Production Flow (Solar Cell)**

<p><b>Texture</b></p>	<p><b>Diffusion</b></p>	<p><b>Etch</b></p>
		
<p><b>PECVD</b></p>	<p><b>Screen Printing</b></p>	<p><b>Firing</b></p>
		
<p><b>Test &amp; Sorting</b></p>	<p><b>Visual Inspecting</b></p>	<p><b>N/A</b></p>



**Production Flow (PV Module)**

<p><b>Cell soldering</b></p>	<p><b>Cells Layout</b></p>	<p><b>EL &amp; Visual inspection</b></p>
		
<p><b>Lamination</b></p>	<p><b>Framing</b></p>	<p><b>Junction Box Fixing</b></p>
		
<p><b>Sealant Curing</b></p>	<p><b>Visual Inspecting</b></p>	<p><b>Flash Test</b></p>



Hi-pot Insulation



EL inspection



Output Sorting



## R & D Capacity

### Current Situation

There is 3 R&D engineers in the company.

Education Level	Headcount
Doctorate	0
Post-Graduate	3
Graduate	0
Junior College	0
Technical School	0
High School	0

Work Experience	Headcount
Over 30 Years	0
21-30 Years	0
11-20 Years	0
6-10 Years	1
2-5 Years	2
Less than 2 years	0

Brand Situation				
Registration/application No.	Brand Name	For Approval to Use Goods	Validity Date	Ref.
23215292	YOULIKA	Polysilicon; monocrystalline silicon, solar cells, chips for integrated circuits, electric fence, luminous or mechanical signal plates, silicon epitaxial wafer, anti-glare screen, inverter (electrical), power supply material (wires, cables) (the end)	21/Mar./2018 -- 20/Mar./2028	Photo in Certificate and Photo (Trademark Photos)

Patent Situation				
Patent No.	The Name of the Patent	The Patent Type	Available Date	Ref.
ZL 201610631681.0	Printing method of the front electrode for crystalline silicon solar cell	Invention patent	Nov. 07, 2017	Photo in Certificate and Photo (Patent Photos)
ZL 201510590990.3	One kind of manufacturing method for Anti-PID solar cells	Invention patent	Aug. 25, 2017	Photo in Certificate and Photo (Patent Photos)
ZL 201310129276.5	Solar cell back electrode and its matching test electrode	Invention patent	May 06, 2017	Photo in Certificate and Photo (Patent Photos)
ZL 201510769435.7	Back electrode structure for solar cell	Invention patent	Apr. 12, 2017	Photo in Certificate and Photo (Patent Photos)
ZL 201720616123.7	One kind of front electrode structure for solar cell	The patent for utility model	Dec. 01, 2017	Photo in Certificate and Photo (Patent Photos)
ZL 201720862395.5	One kind of testing equipment for solar cell module	The patent for utility model	Dec. 01, 2018	Photo in Certificate and Photo (Patent Photos)
Does the company provide OEM/ODM service for others?			<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No



Are there relevant design input/output, review, and verification documents available for the assessed company?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Based on inspection, are R&D employees equipped with adequate specialized equipment?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Do R&D employees use any specific software for designing new products?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

**Development Devices**

N/A	N/A	N/A
N/A	N/A	N/A

**Management Systems & Quality Control Management**

Quality Management System Certification				
Certification	Certified By	Certificate No.	Business Scope	Expiry Date
ISO 9001:2015	TUV SUD, DAKKS	1210041984 TMS	Manufacture and sales of photovoltaic cells and design, manufacture and sales of photovoltaic solar modules	12/Apr./2016 -- 11/Apr./2019
ISO 14001:2015	Shanghai West Europe, CNAS	WER17E020003ROS	Manufacture of photovoltaic cells, design and manufacture of photovoltaic solar modules and related management actives	27/Nov./2017 -- 26/Nov./2020
OHSAS 18001:2007	Shanghai West Europe, CNAS	WER17S020004ROS	Manufacture of photovoltaic cells, design and manufacture of photovoltaic solar modules and related management actives	27/Nov./2017 -- 26/Nov./2020



Product Certification				
Certification	Certified By	Certificate No.	Product Name & Model No.	Expiry Date
CE	TUV Rheinland	AN 50415116 0001	PV Module & UL-XXXP-72, UL-XXXP-60, UL-XXXP-54, UL-XXXP-48	16/Aug./2018 -- 31/Dec./2049
Certificate	Japan Electrical Safety & Environment Technology Laboratories	PV126-53201-1003	PV Module (Single Crystal)	12/Jun./2018 -- 11/Jun./2023

Test Report			
Test Report	Certified By	Product Name & Model No.	Expiry Date
Test Report	Yangzhou Opto-Electrical Products Testing Institute	Crystalline Silicon PV Modules (Polycrystalline) & UL-325P-72	31/ Oct./2017 --

Quality Control Management			
Content	Observations / Comments		
Does the company set up any inspection standards for raw materials?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Has the company set up necessary quality inspection standards in the process of production?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Does the company have any measures to control the management of unqualified materials after sampling, to avoid mixing up or wasting?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Are work instructions available at the location where the processes take place?	<input checked="" type="checkbox"/> Total line	<input type="checkbox"/> Parts of the line	<input type="checkbox"/> No
Is personal protective equipment (PPE) needed in the production line?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Is the management and usage of production materials as well as the production process executed by staff who are appropriately trained and qualified or by senior staff?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	

Supplier Management				
Content	Observations / Comments			
Does the company have a supplier assessment procedure?	<input checked="" type="checkbox"/> Yes			<input type="checkbox"/> No
Does the company establish and implement a standard procedure for purchasing contract review and approval?	<input checked="" type="checkbox"/> Yes, with written standard procedures	<input type="checkbox"/> Yes, with written procedure but lack of consistent standard	<input type="checkbox"/> No	
Does the company keep its supplier assessment reports?	<input checked="" type="checkbox"/> Yes, Keep for <u>3</u> years available			<input type="checkbox"/> No
Are the company's purchasing documents sufficient to ensure product safety control and their customers' requirements?	<input checked="" type="checkbox"/> Yes, the purchasing document includes all the information required	<input type="checkbox"/> Yes, however the purchasing document includes incomplete information	<input type="checkbox"/> No	
Is there a procedure to conduct random product inspections after final packaging?	<input checked="" type="checkbox"/> Yes, with clear standard and written inspection records	<input type="checkbox"/> Yes, with inspection records but no procedures	<input type="checkbox"/> Yes, with procedures but no inspection records	<input type="checkbox"/> No, inspections are not necessary

After Sales Service				
Content	Observations / Comments			
Has the company set up any procedure for customer feedback, including complaints, clearly recorded and maintained?	<input checked="" type="checkbox"/> Yes, with a standard feedback form and records	<input type="checkbox"/> Yes, with a standard feedback form but no records	<input type="checkbox"/> Yes, with records but no standard feedback form	<input type="checkbox"/> No
Are there any clear procedures for handling customer complaints?	<input checked="" type="checkbox"/> Yes, with clear procedures and written records	<input type="checkbox"/> Yes, with clear procedures but no written records	<input type="checkbox"/> Yes, with written records but no clear procedures	<input type="checkbox"/> No

Does the company have the SOP (Standard Operation Procedure) for after-sales service? Does the company provide after-sales consulting services?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Does the company implement the provisions of the National Three Warrantees (warranty for repair/replacement /return) for their products?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

## Corporate Social Responsibility

Child Labour & Forced Labor		
Content	Observations / Comments	
Is it clarified that there's no child labor in the company?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Does the company have an explicit job management program, and take corresponding measures to check the age of the employees?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Are the staff clearly aware of the terms of labour contract, regulations of the company and the right of free employment?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Have the staff been forced to work overtime? Will they be fined or fired if they refuse to?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

Health and Safety		
Content	Observations / Comments	
Has the company set up a safety responsibility system, and distributed to all levels of supervisor and provided them with corresponding training?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Does the company conduct regular inspection of the plant and equipment, to ensure the health and safety of the workshop at least in accordance with the law?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Does the company regularly provide necessary safety and health training, to make the staff understand that there might be occupational hazards in their work, and take appropriate protective measures when necessary? (For example, how to use personal protective equipment safely, etc.)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Does the company hold regular fire drills, including fire drills and evacuation drills? Do the staff clearly know how to raise an alarm, how to evacuate and how to use the fire extinguisher?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Does the company have the approval report issued by the local Fire Bureau?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Does the company provide sufficient first aid equipment? Are first-aid kits and trained first-aiders available in each workplace?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

Does the company provide clean lavatories, separating men's and ladies'?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Does the company provide clean drinking water to the staff? Is there unrestricted access to the drinking water?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

## Development / Expansion Plans

Company Development / Expansion Plans	
Company Development Action	Timeframe
N/A	N/A

## Certification & Photos

### Certification

Business License	Tax Registration Certificate

Permit for Opening Bank Account



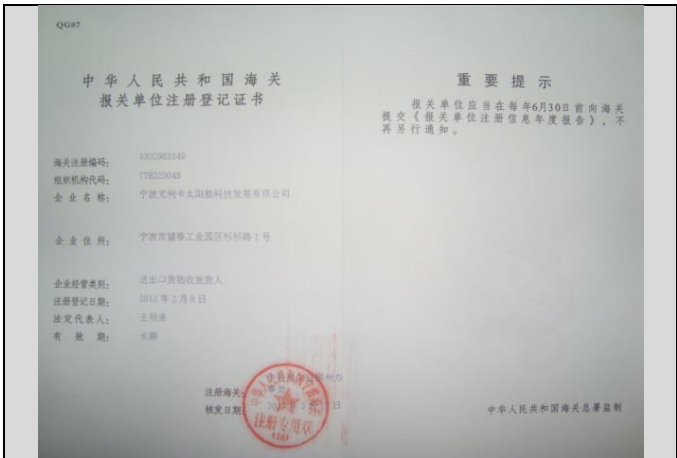
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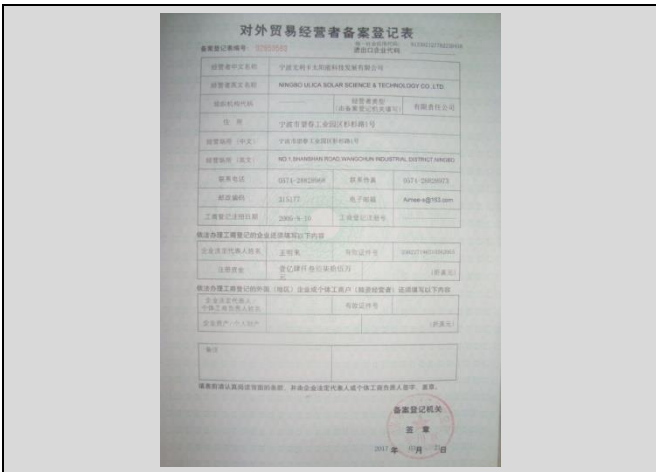
Certificate Photo -- Trademark



Certificate Photo -- Custom Clearance Registration Form



Certificate Photo -- Import and Export Enterprise Registration



Certificate Photo -- ISO 9001:2015



Certificate Photo -- ISO 14001:2015



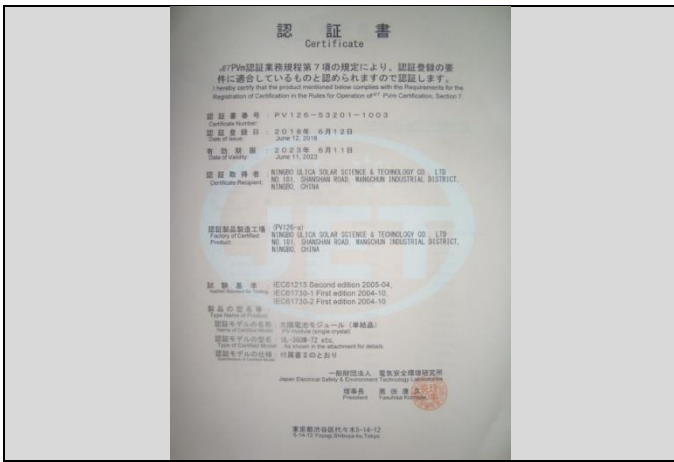
Certificate Photo --OHSAS 18001:2007



Certificate Photo -- CE



Certificate Photo -- Certificate



Certificate Photo -- Work Safety Standardization



Certificate Photo -- New Hi-Tech. Enterprise Certificate





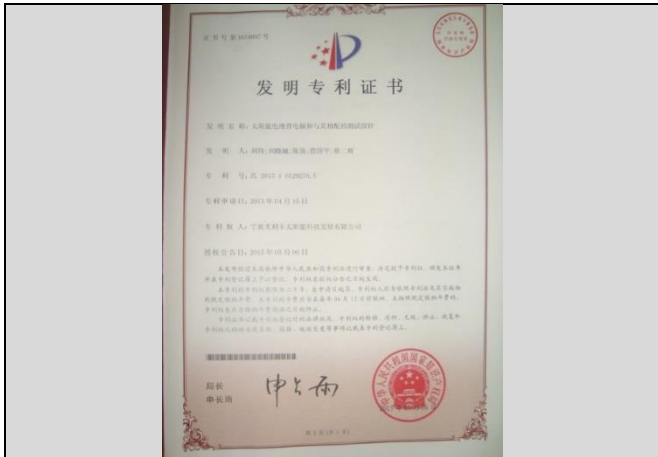
Certificate Photo -- Patent 1



Certificate Photo -- Patent 2



Certificate Photo -- Patent 3



Certificate Photo -- Patent 4



Certificate Photo -- Patent 5



Certificate Photo -- Patent 6







Product Photo



Product Photo



Product Photo



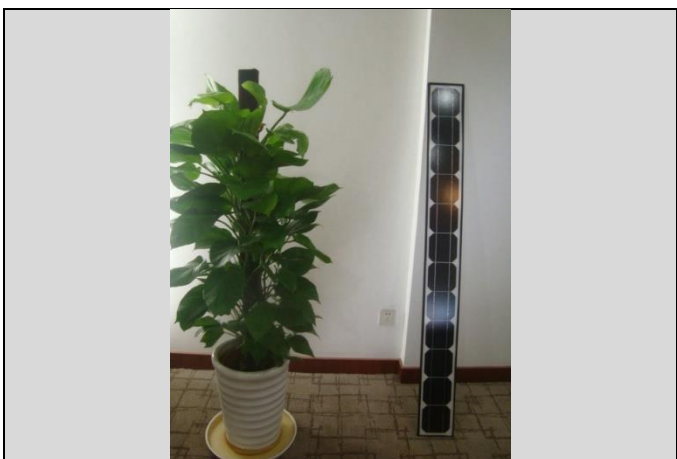
Product Photo



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