SUNNIEST®
solar series

"The most satisfactory, reliable solar company that provides solar solutions."

- Sunniest Solar Nantong Ltd"

2023

Sunniest Solar Nantong Ltd

https://sunniest.en.alibaba.com/

Go solar, Go longer

Zero Electricity Bill is Possible with Solar.

It's the cleanest, most renewable energy source available.

Company Profile

Sunniest Solar Nantong Ltd. (Sunniest) is committed to being the most valuable solar system service company in the world. It adopts five long-term factories with intelligent equipments which are construct industry-leading production lines of Silicon Wafers, Solar Cells, Solar Panels, Solar Charge Controllers and Solar Inverters.

Our vision is to become an efficient clean energy supplier that continuously improves the human living environment. Under the mission of “To make the world better with solar energy” with a brand positioning of “The most satisfactory, reliable solar company that provides solar solutions”, Sunniest is developing solutions for different scales of power plants, for commercials and households with its innovation-focused development.

Sunniest has established a mature system that defines a modern enterprise. Sunniest considers the quality of products as its life, for which it established long-term mechanism

SUNNIEST®
solar series

Core Values

Quality Assured
Value Embodiment
Social Responsibility

Business Philosophy

Customers the First
Employees the Second
Shareholders the Third

Corporate Spirit

Innovation Entrepreneurship Transcendence

Introduction to Production Machineries

Sunniest Solar Nantong Ltd. (Sunniest) has five long-term-corporation factories which are all equiped with international advanced production machineries and testing equipments. Strong supports are provided and guaranteed for the OEM and ODM orders.

1. Laser Cutting Machine

2. MBB PV Cell Soldering Stringer

3. Laying Machine

4. Welding Machine

5. Back Sheet Assemble Machine

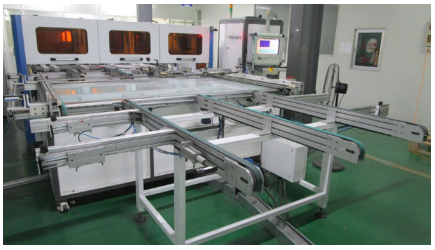
6. EL Tester

7. Laminating Machine

8. Frame Mounting Machine

9. Glue Dispensing Machine

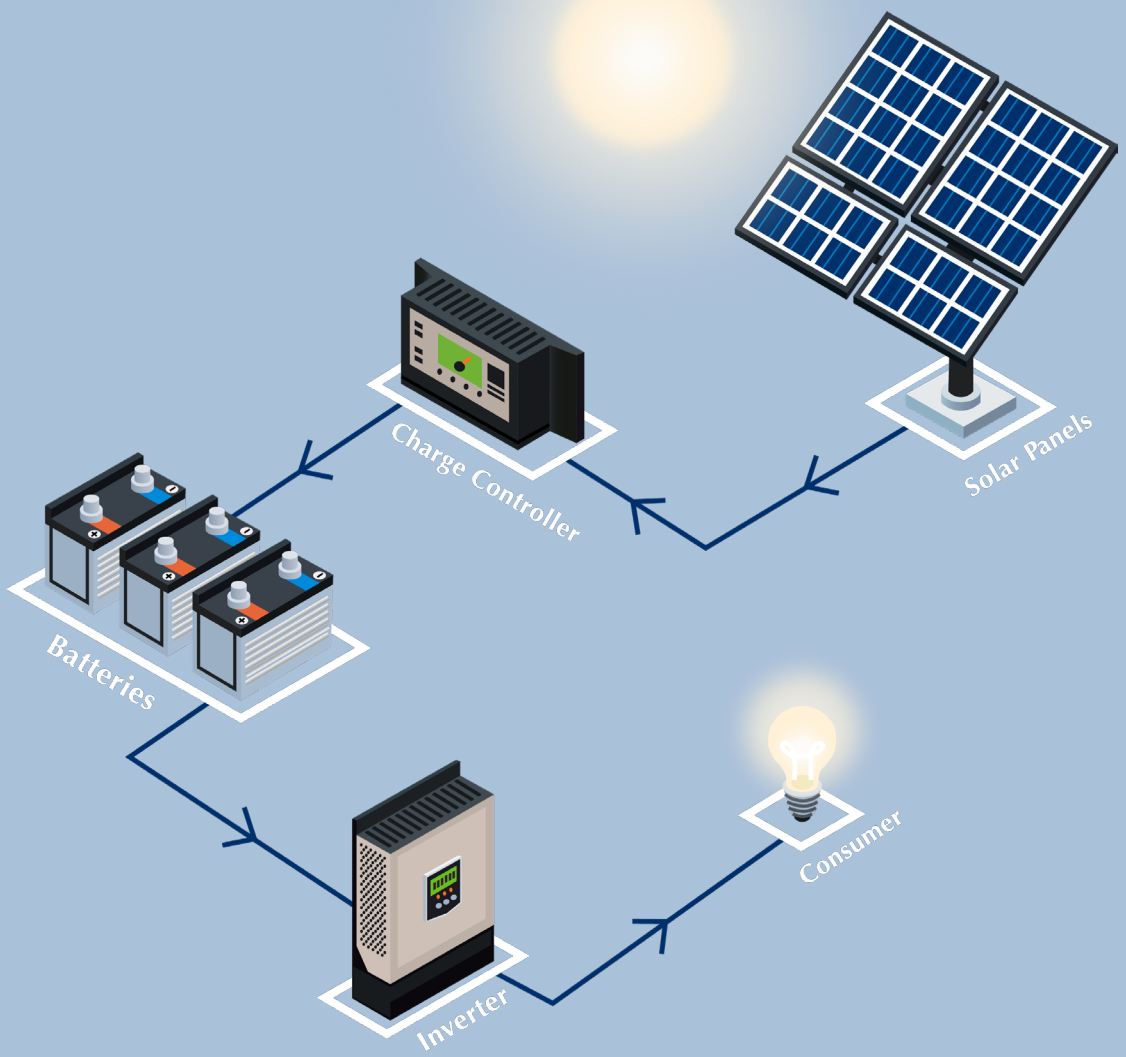
10. Safety Tester



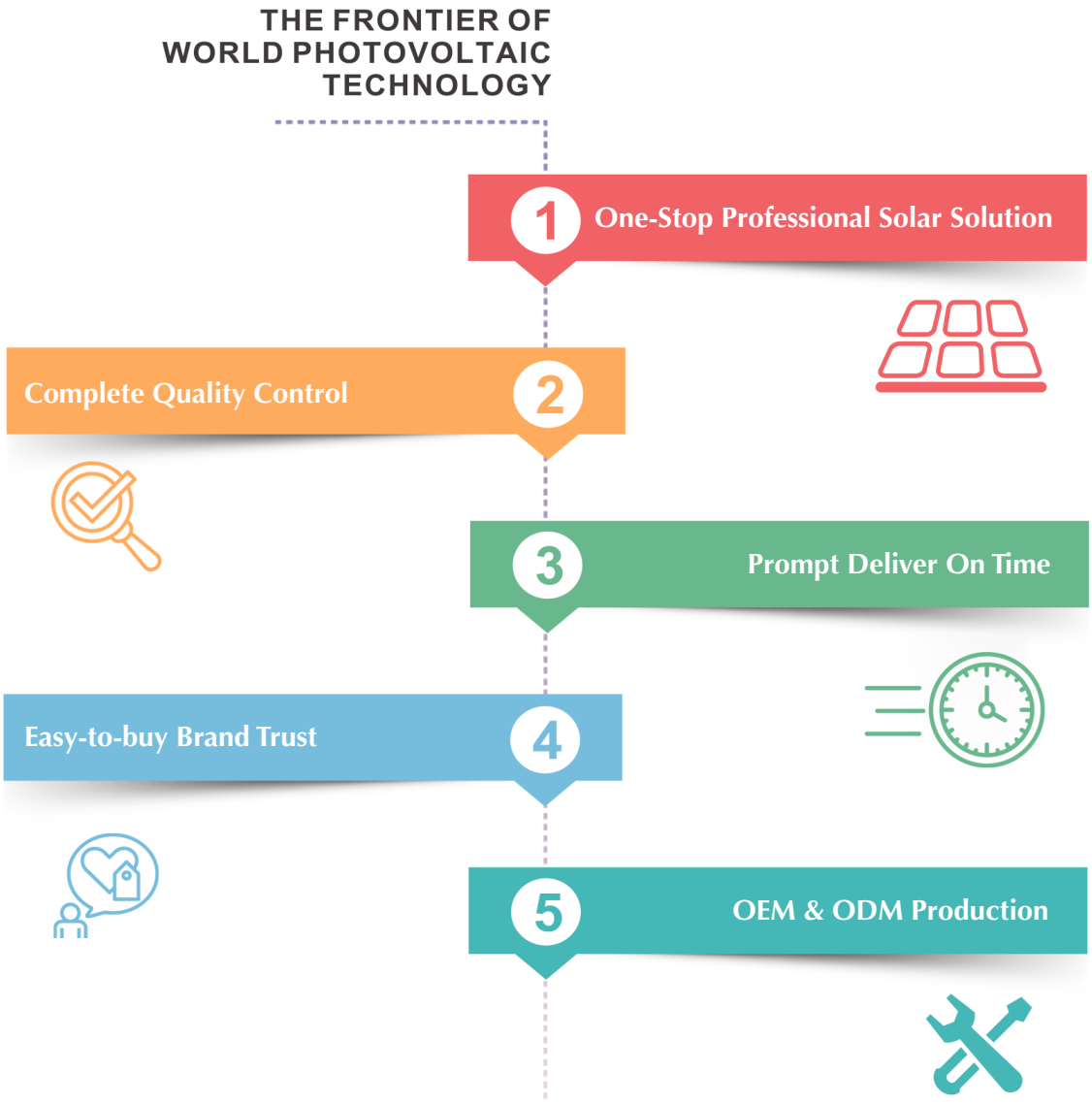
11. IV Tester

12. Tension Tester

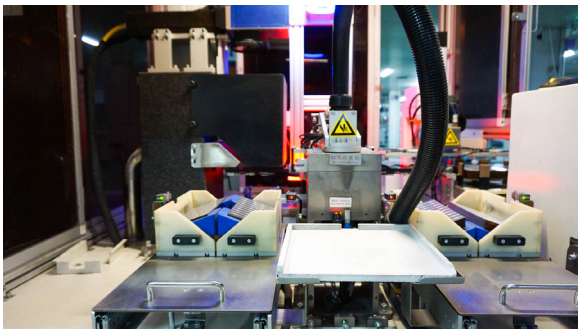
HIGH EFFICIENCY PHOTOVOLTAIC SYSTEM SOLUTION PROVIDER



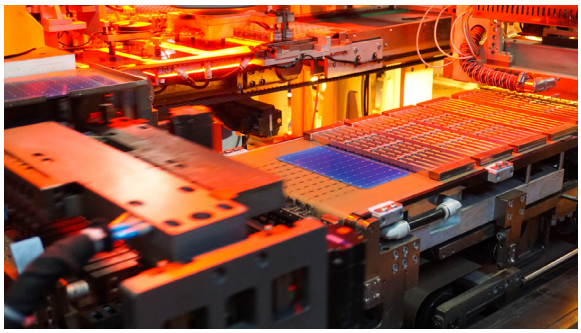
Sunniest Advantages



Production Process



1. Cut Half



2. Screen Printing

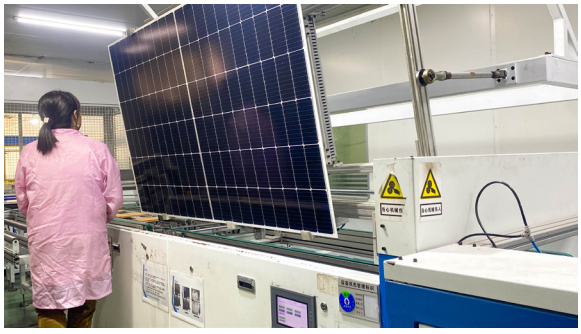
3. Front Shee

6. Back Sheet Installation

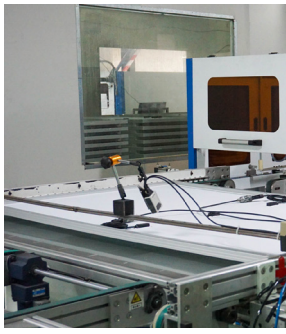
7. Mid EL Test

8. Metal Fram

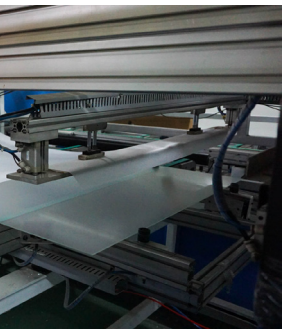
11. Cleaning Up



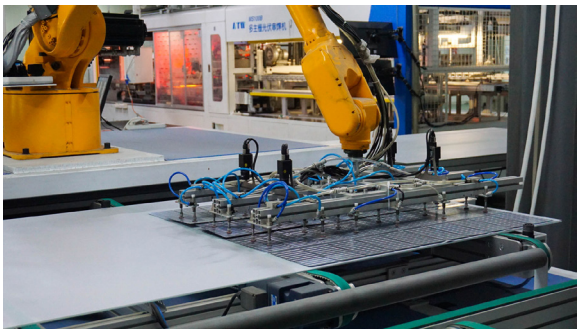
12. External Assessment



13. I

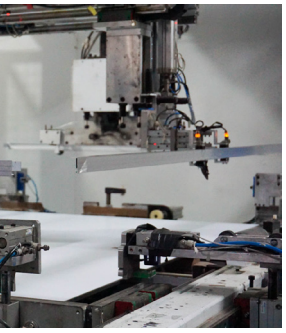


t Installation



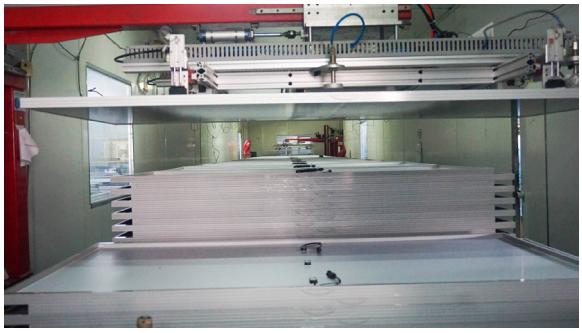
4. Array

5. Soldering



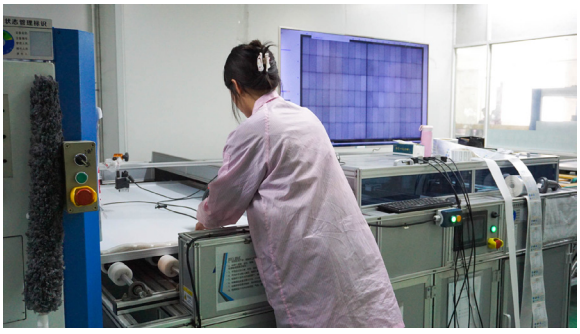
e Installation

9. Junction Box Installation



10. Drying Process

V Test



14. Final EL Test

15. Finished

CIGS Flexible Solar Panels

CIGS Flexible Solar Panels

· Power: 500W

· Efficiency: 16.2%

· Operating voltage (Vmp): 62.4V

· Operating current (Imp): 8.03A

· Open circuit voltage (Voc): 77.2V

· Short circuit current (Isc): 9.07A

· Dimensions: 2583x1292x1mm

· Solar cells: 224 CIGS cells

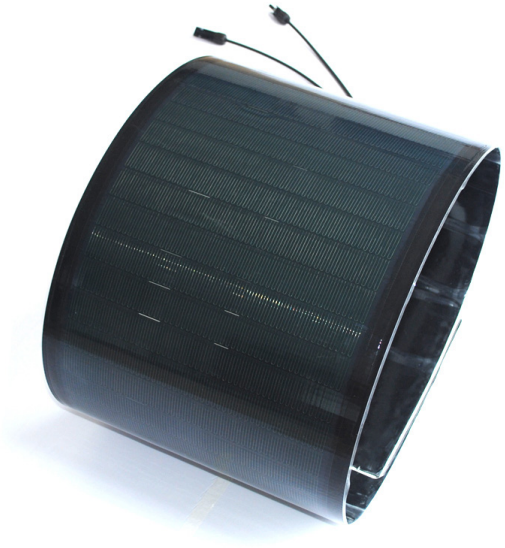
· Cell type: CIGS

· Junction box: IP67

Yearly Yield	+10-20%
10% Shadows Effect	Reduce the production with around 10-20%
CO_2	Uses significantly less energy to produce than crystal-line
Elements Usage	Cooper Indium Gallium and Selenice
Flexibility	Very flexible modules available
Micro Cracks	You will have to penetrate the module to make cracks which then might not be micro
Durability	Due to the “powder” build up, there is no wafers to crack or damage
Lifetime	Same on moving and non moving installations
Temperature Impact	Power production decline approx. 0.3% per degree Celsius the temperature raises
Efficiency (summer 2020)	Up to 19%
Weight	Down to 2.9kg/m^2
Typically Warranty	5 or 10 years workmanship. 25 years powerloss
Looks	Typically black, but can be produced in all colors and even transparent

★ We can customize various sizes solar panels with any solar cells, any type of frames on demand.

★ We can also supply customizable packages and logos.



CIGS advantages

1mm thickness

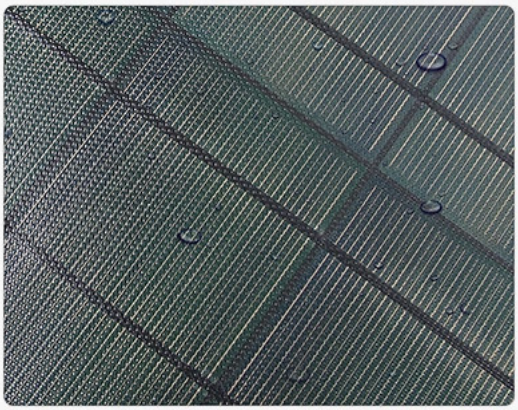
ETFE coating

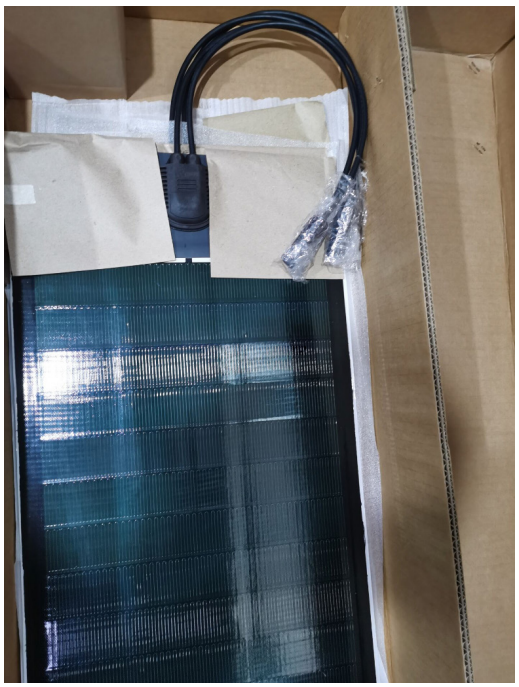
Rolled up to 360°

Easy installation

Better luminousness ability

Longevity





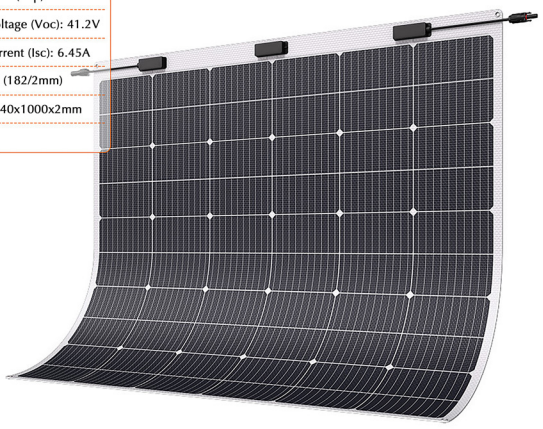
ETFE Flexible Solar Panels

POWER: 25W

Model : SUNFX-25W
Operating voltage (Vmp): 18.0V
Operating current (Imp): 1.39A
Open circuit voltage (Voc): 22.5V
Short circuit current (Isc): 1.47A
Cells No.: 4x8 [(182/2)/4mm]
Dimensions: 430x395x2mm
Weight: 0.5kg

POWER: 200W

Model : SUNFX-200W
Operating voltage (Vmp): 33.0V
Operating current (Imp): 6.06A
Open circuit voltage (Voc): 41.2V
Short circuit current (Isc): 6.45A
Cells No.: 6x10 (182/2mm)
Dimensions: 1140x1000x2mm
Weight: 3.7kg



POWER: 150W

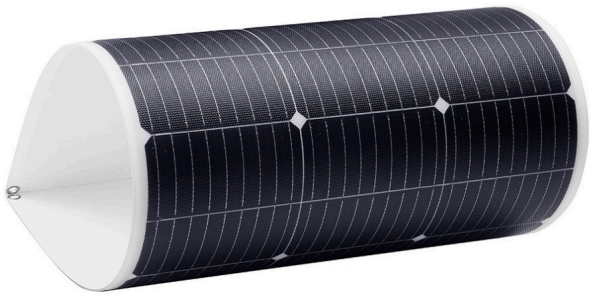
Model : SUNFX-150W
Operating voltage (Vmp): 18.5V
Operating current (Imp): 8.11A
Open circuit voltage (Voc): 23.1V
Short circuit current (Isc): 8.62A
Cells No.: 3x11 (210x2mm)
Dimensions: 1220x670x2mm
Weight: 2.7kg

POWER: 350W

Model : SUNFX-350W
Operating voltage (Vmp): 33.0V
Operating current (Imp): 10.6A
Open circuit voltage (Voc): 41.2V
Short circuit current (Isc): 11.3A
Cells No.: (6x10)x2 (166/2mm)
Dimensions: 1780x1035x2.5mm
Weight: 6kg

ETFE Flexible 220W Solar Panels

· Power: 220W
· Cell Type: Monocrystalline Solar Cells
· Cells Number: 32
· Efficiency: 23%
· Operating voltage (Vmp): 18.0V
· Operating current (Imp): 12.2A
· Open circuit voltage (Voc): 22.5V
· Short circuit current (Isc): 13.0A
· Dimensions: 1550x770x2mm
· Weight: 3.9kg
· Front Sheet: ETFE
· Packaging Material: Anti-splinter Composite
· Back Sheet: TPT
· Junction Box: PV-XC022
· Connector: MC4

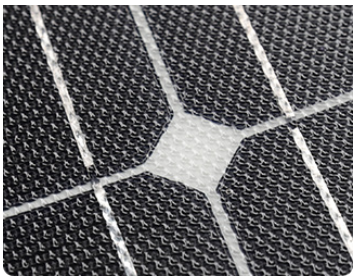


Product Features:

Leading the future of solar technology, our mono cells flexible solar panels are crafted with a unique new material, significantly enhancing their resistance to micro-cracking. Whether bent or shaken, the internal cells remain undamaged. Flexible, durable, and adaptable to various environments, they are the ideal choice for your sustainable energy solutions.

Choose our flexible solar panels, and let energy innovation power your future.

Stepping Resistant



ETFE Surface

Flame Retardant

Foldable Solar Chargers

7W ETFE Solar Charger

· Power: 7W

· Operating Current: 0-1200mA

· Operating Voltage: 5V

· Product Weight: Approximately 240g

(actual product weight may vary)

· Expanded Dimensions: 440x165x3mm

· Folded Dimensions: 105x165x20mm

30W ETFE Foldable Solar Charger

· Output Voltage: 5V/12V

· Current: 3A (Intelligent Stabilization)

· Output Interface: Dual USB/DC (with fast charging)

· Solar Cells: Grade A Monocrystalline Silicon

· Conversion Efficiency: 20.5%

· Weight: Net Weight of the Product: 815g

· Expanded Dimensions: 550*385mm

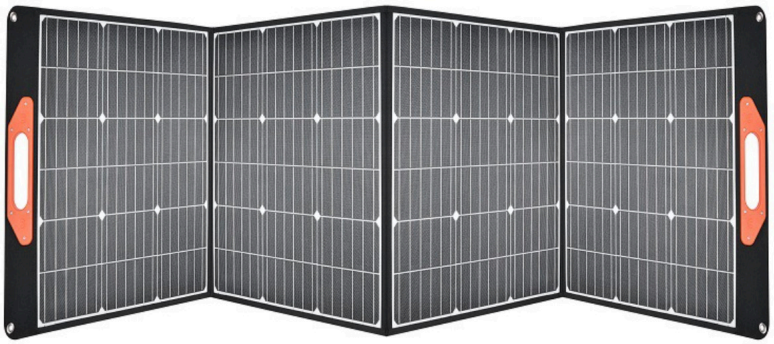
· Folded Dimensions: 190*185*15mm

· Technology: ETFE Lamination Integrated

(2nd Generation Integrated Lamination Technology)

16W Solar Foldable Charger

- Output Voltage: 5V
- Current: 0-3A (Intelligent Stabilization)
- Output Interface: Dual USB
- Solar Cells: Grade A Monocrystalline Silicon
- Conversion Efficiency: 20.5%
- Weight: Net Weight of the Product: 442g
- Expanded Dimensions: 640*220*20mm
- Folded Dimensions: 220*78*40mm
- Surface Material: Leather
- Technology: Integrated Electric Lamination
- Waterproof Level: IPX6



Name: Foldable Solar Panel Charger	Model: SUNFB-200W
Power: 200W	Convert Efficiency: ≥22%
Folded Size: 54x60.5x5.5cm/21.25x23.81x2.16in	Open Size: 228.5x54x2.5cm/89.96x21.25x0.98in
Weight: 6.9kg	Color: Black/Customized
Output: 1. DC: 18V/11.1A Max; 2. USB-A: QC3.0 24W Max (5V/9V/12V); 3. Type-C: PD45W Max (5V/9V/12V/15V)	Material: ETFE laminated monocrystalline solar panel/ RPET waterproof fabric/intelligent charging chip
Applications: Charging 5-volt devices like: phones, tablets, power banks, PSP, MC4, GPS, blue-tooth earphone etc. under sunlight, and charging for some 12V-18V devices such as car jump starter, laptop power bank, emergency storage power system etc.	
Instructions: This product doesn't have power storage function, the charging effect will be different based on different sunlight radiance, and the actual demands of the device to the charging current.	

Portable Solar Chargers

2W Epoxy Solar Charger

· Power: 2W

· Operating current: 0-380mA

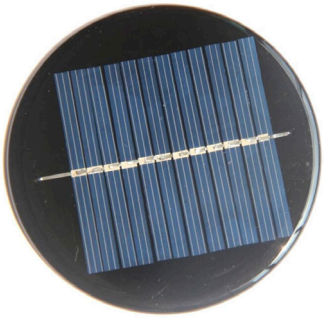
· Operating voltage: 12V

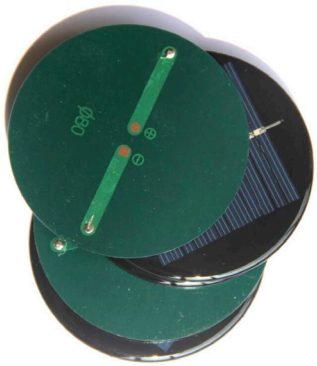
· Weight: Approximately 65g

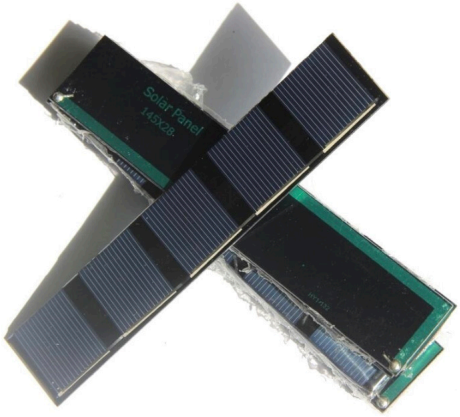
· Dimensions: Approximately 88x142mm

(actual product dimensions may vary)

· Output: USB







15W ETFESolar Charger

· Output voltage: 5V
· Current: 0-2.4A (Smart voltage stabilization)
· Output interfaces: Dual USB
· Panel: A-grade monocrystalline silicon
· Conversion rate: 20.5%
· Weight: 485g with packaging
· Product dimensions: 370x205x20mm
· Technology: ETFE laminated integration
(2nd generation laminated integration technology)
· Waterproof rating: IPX6

A-grade Polycrystalline Solar Charger

· Power: 2W
· Operating current: 0-166mA
· Short circuit current: 220mA
· Operating voltage: 12V
· Open circuit voltage: 13.5V
· Weight: Approximately 208g (actual product weight may vary)
· Dimensions: Approximately 135x140x15mm
(actual product dimensions may vary)
· DC interface: 5521
· Cable length: Approximately 3 meters

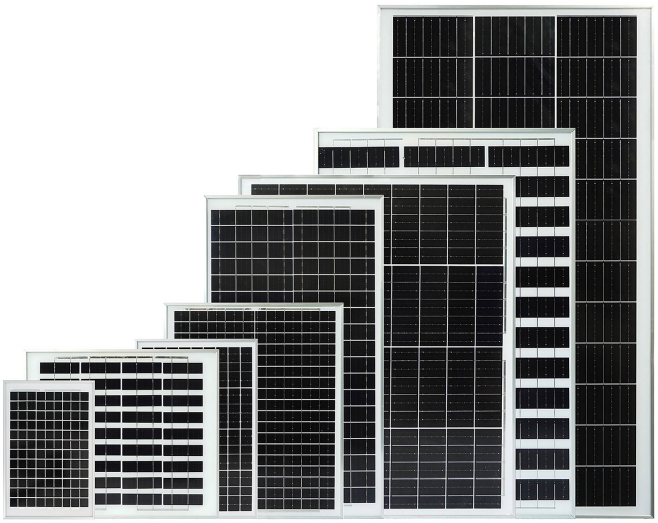
★ We can customize any sizes small solar chargers with any solar cells, any cables on demand.
★ We can also supply customizable packages and logos.

Small Solar Panels

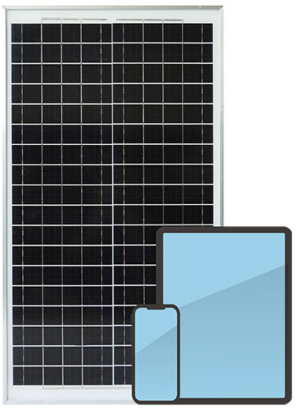
- We can customize various sizes small solar panels with any solar cells, any cables on demand.
- We can also supply customizable packages and logos.

30W Small Solar Panel

Maximum Power (W)	30W
Dimensions (mm)	630x350x17
Cell Type (mm)	158.75
Maximum Power Voltage (Vm)	18.0V
Maximum Power Current (Im)	1.67A
Open Circuit Voltage (Voc)	21.67V
Short Circuit Current (Isc)	1.92A
Weight (kg)	2.0
Error Range (%)	±3
Working Temperature (℃)	-40 ~ 60



WIDE APPLICATIONS & EASY TO HANDLE



30W Solar Panel 630x350mm iPhone 11 Pro Max iPad Pro

Solar Panels

★ We can customize various sizes solar panels with any solar cells, any type of frames on demand.

★ We can also supply customizable packages and logos.

440-460W 182M/120

Solar Cells	Mono
No. of Cells	120 (6x20)
Dimensions	1910x1134x35mm
Weight	23.0kg
Front Glass	3.2mm coated tempered glass
Frame	Anodized aluminum alloy
Junction Box	IP68 rated (3 by pass diodes)
Output Cables	4.0mm²
	300mm (+) /300mm (-)
	Length can be customized
Connectors	Mc4 compatible
Mechanical load test	5400pa

OPERATING CHARACTERISTICS

Operating Module Temperature	-40℃ to +85℃
Maximum System Voltage	1500 DC (IEC)
Maximum Series Fuse Rating	25A
Power Tolerance	0/+5W

TEMPERATURE CHARACTERISTICS

Nominal Operating Temperature (NMOT)	45±2℃
Temperature Coefficient of Pmax	-0.36%℃
Temperature Coefficient of Voc	-0.28%℃
Temperature Coefficient of Isc	+0.05%℃

Power Class		Maximum Power (Pmax)	Open Circuit Voltage (Voc)	Short Circuit Current (Isc)	Voltage at Maximum Power (Vmpp)	Current Maximum Power (Imp)	Module Efficiency (%)
SUNNIEST-440M	STC	440W	41.94V	13.58A	34.67V	12.69A	20.31%
	NMOT	331W	39.56V	10.87A	32.29V	10.25A	
SUNNIEST-445M	STC	445W	42.12V	13.65A	34.87V	12.76A	20.55%
	NMOT	335W	39.83V	10.91A	32.56V	10.29A	
SUNNIEST-450M	STC	450W	42.31V	13.72A	35.07V	12.83A	20.78%
	NMOT	339W	40.09V	10.95A	32.82V	10.33A	
SUNNIEST-455M	STC	455W	42.49V	13.79A	35.27V	12.90A	21.01%
	NMOT	343W	40.35V	10.99A	33.08V	10.37A	
SUNNIEST-460M	STC	460W	42.68V	13.86A	35.47V	12.97A	21.24%
	NMOT	347W	40.62V	11.03A	33.33V	10.41A	

STC: Irradiance 1000W/m², cell temperature 25℃, AM1.5G
NOMT: Irradiance 800W/m², cell temperature 20℃, wind speed 1m/s, AM1.5G

Solar Charge Controllers

- We can customize various sizes charge controllers on demand.
- We can also supply customizable packages and logos.

80A PWM Charge Controller

· LCD with backlight
· Perfect electronic protections
· Adjustable parameters of system control
· Intelligent 4 stages PWM charging control
· Multiple load work modes and battery types selectable

Product Features

This series controller is a PWM charge controller with built in LCD that adopts the most advanced digital technique. The multiple load control modes enable it can be widely used in solar off grid system, traffic signal, solar street light, etc.

· System voltage of battery automatic detection
· Intelligent PWM charging: Bulk, Absorption, Float, Equalization
· LCD display with back-lighting shows device's operating data and working condition
· Humanized simple button operation, adjustable charge-discharge control parameters
· Support of various battery types: Lead-acid battery (AGM, Gel, Flooded), Lithium battery ($LiFePO_4$, $LiNiCoMnO_2$) and etc.
· Multiple load control modes: Manual Control, Light Control, Reverse Light Control, Light and Dual Time Control
· Automatic temperature compensation and accumulated function of charge and discharge
· Double USB output 5V/2A
· Perfect electronic protections

Rated Current	80A
Rated Voltage	DC 12V/24V Auto (or 12V/24V/36V/48V Auto)
Max PV Open Circuit Voltage	100V
Self-consumption	≤20mA
Loop Voltage Drop	≤0.3V
USB Output	5V/2A x2
Temperature Compensation	-4mV/℃/2V (25℃)
Operating Temperature	-40℃ ~ 60 ℃
Protection Category	IP32
Humidity	≤95%, non-condensing
Terminals	4AWG/25mm²
Mounting Hole Size	190x104mm-Φ5mm
Dimensions	200x132x61mm
Weight	0.80kg

Solar Inverters

REVO VP/VM series

Hybrid Energy Storage Inverters

1.2kw / 2.2kw / 3.2kw

REVO VM II PRO series

Off Grid Solar Inverter

1.5kw / 2.5kw / 3.5kw /5.5kw

REVO HES series

On Grid Solar Inverter

5.6kw

Solar Charge Controllers

Battery Model	Dimensions (mm)	Capacity (Ah)	Weight (Kg)
12V65AH	326x171x167/167	65	19.5
12V75AH	266x166x209/209	70	21.5
12V100AH	330x171x217/225	102	29
12V120AH	406x172x237/237	120	34.5
12V150AH	484x170x241/241	155	42
12V200AH	522x240x219/225	205	58.5
12V250AH	520x269x220/228	245	67
12V260AH	520x269x220/228	260	70

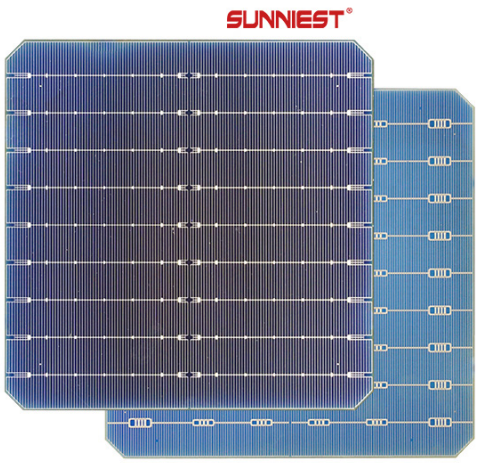
SUNNIEST 10-BOX 5 PRO

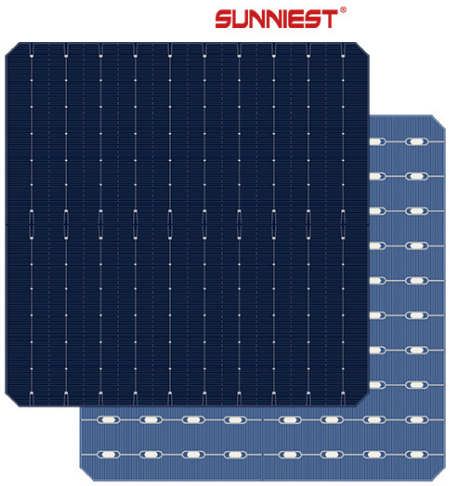
· Battery Module: 1 module (1-4 modules)
· Usable Energy: 5.12kWh
· Max Output Power: 4.1kW
· Peak Output Power: 5.4kW, 10s
· Round-Trip Efficiency: ≥94.0%
· Nominal Voltage: 51.2V
· Operating Voltage Range: 45.0-56.4V
· Communication: CAN/RS485
· Dimensions: 580x250x440mm
· Weight: 58±2kg
· Enclosure Protection Rating: IP21

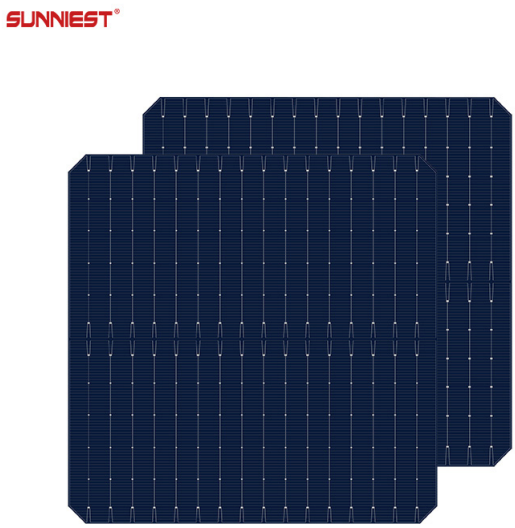
SUNNIEST S05

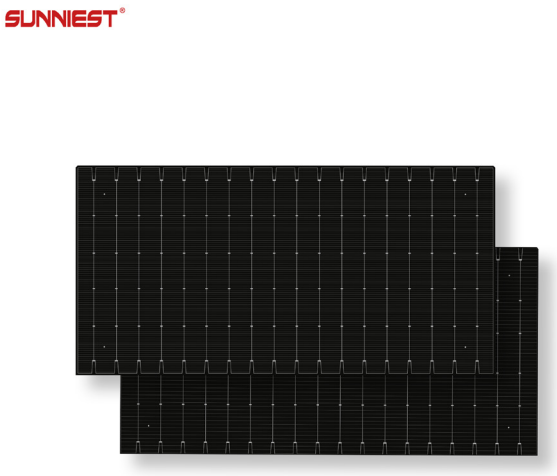
· Battery Module: 5 module (2-5 modules)
· Nominal Voltage: 512V
· Operating Voltage Range: 400-584V
· Communication: CAN
· Dimensions: 600x390x1225mm
· Weight: 279±5kg
· Enclosure Protection Rating: IP55
· Certification&Safety Standard: UN38.8/IEC62619/CE-EMC

Solar Cells









★ We can customize various sizes solar cells on demand including large-size, TOPCon, HJT, shingling, MBB (9BB/10BB/11BB/12BB)

★ We can also supply customizable packages and logos.

PERC 210mm 12BBB

· P-type mono-crystalline silicon wafer-PERC

· 160μm±20μm

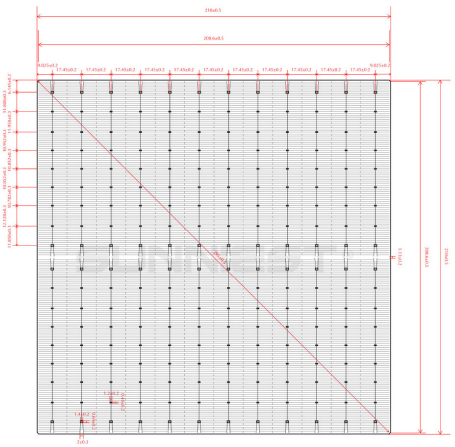
· 210mm*210mm±0.25mm

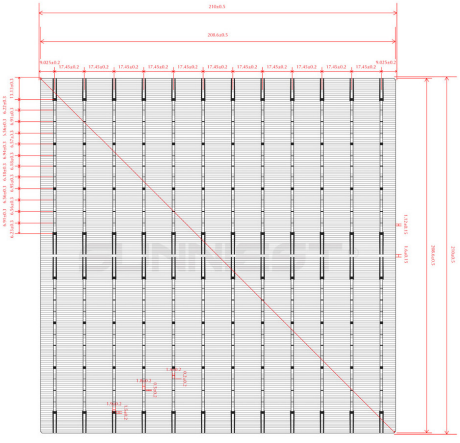
· 296mm±0.5mm

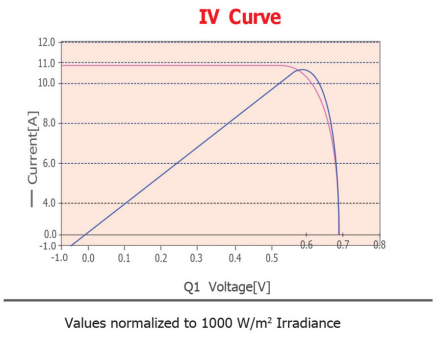
· Front(-): 12*0.06mm±0.04mm busbar(silver), 17±15 fingers, Blue (dark blue) color antireflective film (Silicon nitride conposite film)

· Back(+): Back electrode width (silver) 12±0.4mm, back covered with fingers

PERC 210mm 12BB Specifications



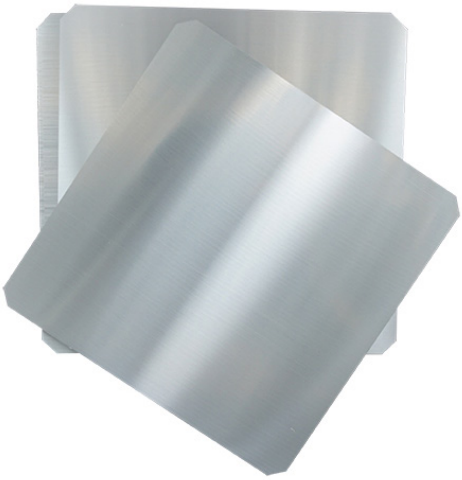


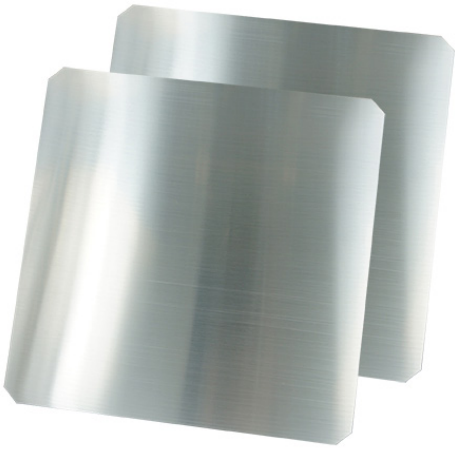


Electrical Performance

Grade	Unit	23.10	23.00	22.90	22.80	22.70	22.60	22.50	22.40	22.30	22.20	22.10
Uoc	V	0.690	0.689	0.688	0.687	0.686	0.685	0.685	0.684	0.682	0.681	0.680
Isc	A	18.186	18.166	18.140	18.125	18.108	18.088	18.062	18.049	18.030	18.016	17.955
Vmpp	V	0.590	0.589	0.587	0.586	0.584	0.583	0.581	0.579	0.577	0.575	0.574
Impp	A	17.261	17.216	17.206	17.151	17.140	17.101	17.074	17.064	17.036	17.026	16.986
Pmpp	W	10.18	10.14	10.10	10.05	10.01	9.97	9.92	9.88	9.83	9.79	9.75
Standard Test Conditions: 1000W/m², AM1.5, 25℃												

Silicon Wafers





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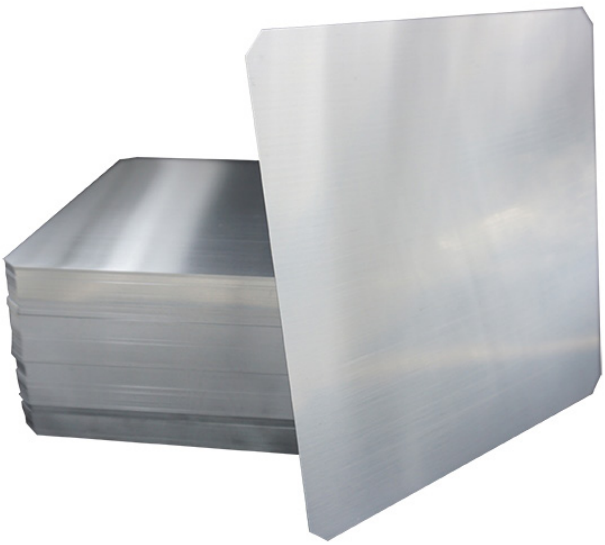

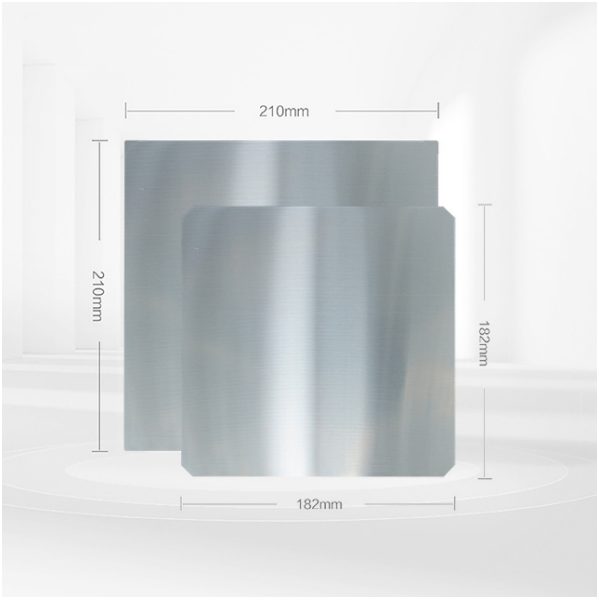

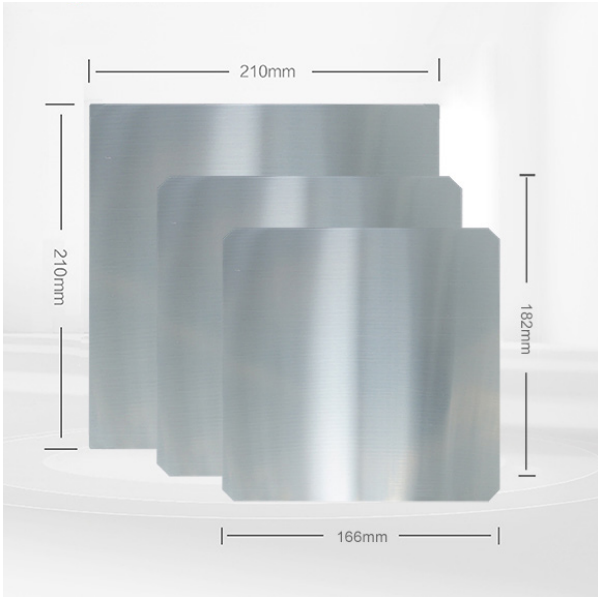

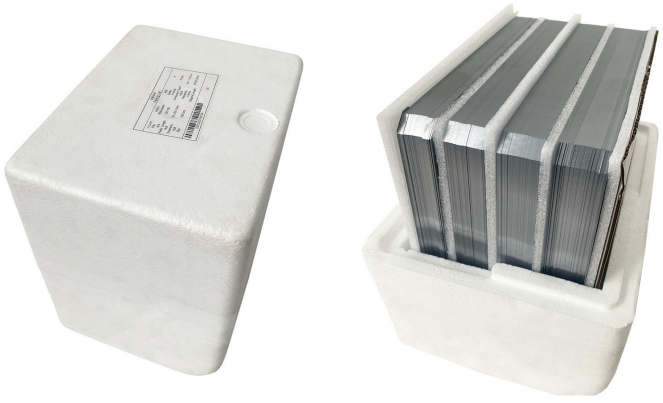

Silicon wafers are closely packed with soft sponge around within the styrofoam box. Outer packing box must have shock buffer, to be suitable for long-distance delivery.
After packaging, wafers should be stored indoors in the conditions of good ventilation, dry, humidity below 60%, and temperature ≤40 °C. Wafers should be sampling inspected again if the storage time over 45 days.

Sunniest Solar Nantong Ltd

Jingyuan 26, No.217 Xinsheng Road, Chongchuan District, Nantong City, Jiangsu Province, China (Zip Code 226014)
Website: https://sunniest.en.alibaba.com/
Sales Email: evelyn@sunniest.com