RK SOLAR

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RK Solar Product Manual

RK SOLAR

BORN BY NATURE, MOTIVATED INFINITELY

RK SOLAR

Product Manual

Mingyang Smart Energy Group., Ltd

Established in 1993, Mingyang Smart Energy has adhered to the concept of serving the country with the manufacturing, innovation, and independent R&D of high-end equipment .The company has created a “Mingyang Model” for independent wind power development in China, which is widely recognized by international peers, and has turned into the pillar of China’s new energy industry. It was listed on the Shanghai Stock Exchange with the stock code of 601615 on January 23, 2019.

The mission of the company is to realize sustainable, universal and smart energy, and its vision is to develop full life cycle value chain management providers and systematic clean energy solutions. The organization has steadily grown into a leading domestic smart energy enterprise group with global reach through technical advancement and business model innovation, ranking 41st among the top 500 new energy companies in the world and first in the innovation of global offshore wind power.

Mingyang developed a smart energy database and a cloud platform for large-data computing focused on high-end equipment manufacturing and smart microgrid technology. The company has transformed from manufacturing service to internet-based technology reservation through financing and business mode innovation. Mingyang is marching full speed to take up the great cause of ”Smart energy benefits the whole world” .

Mingyang has set an innovative R&D platform of “1 headquarter and 5 centers” worldwide, including post-doctoral research center, national technology center, and state and local joint innovation laboratory. Mingyang owns over 400 patents and more than 20 certified wind turbines models and has been recognized as National Intellectual Property Advantageous Enterprise and National Hi-tech Enterprise.

Ruike Introduction

Ruike was jointly established in August 2015 by China’s new energy leading enterprise Mingyang Smart Energy Group, Ltd. (Stock code: 601615) and US solar company Clean Energy International, Inc. The company is headquartered in Torch Development Zone in Zhongshan City, Guangdong Province.

After years of independent research and development, Ruike has developed the core technology for rapid coating equipment, superior product stability and high conversion efficiency, as well as the efficient and stable manufacturing process of CdTe PV modules. Ruike has built the first 100MW CdTe module production line in early 2018. The vacuum deposition system was the very first system invented and built in China. The whole assembly line was fully automated and equipped with advanced enterprise manufacturing integrated System, which filled the technical gap and is the most advanced in China.

Ruike has developed more than than 100 products such as CdTe standard module, BIPV power glass, insulating power glass, lighting power glass and other products customizable in transparency, color, and pattern. Ruike has achieved 20% cell efficiency and 16% module efficiency, which is the highest in China. The company has met the requirements of ISO9001:2015, ISO14001:2015, and ISO45001:2018 international standards. The products have obtained many national and international certifications including IEC 61215, IEC61730, CGC+VDE, UL6730 for the highest thin-file efficiency certificated in China, CQC and UL class A fire certification for BIPV products. Ruike is no doubt the leader in the field of thin-film PV in China.

Ruike’s products have a wide range of applications. They can not only be applied to conventional large-scale ground photovoltaic power stations and rooftop distributed photovoltaic power stations, but also be used as curtain walls, skylights, sun-rooms, parking sheds, awnings, bus stations, etc. They go beyond the conventional photovoltaic applications and made great contributions to the green buildings, low-carbon zero-energy buildings, and BIPV.

As the world’s advanced and China’s leading manufacturer of CdTe thin-film solar modules, Ruike is dedicated to the R&D, manufacturing and sales of thin-film solar modules as well as providing total solutions for solar power generation systems. Ruike’s products have been sold all over the world.

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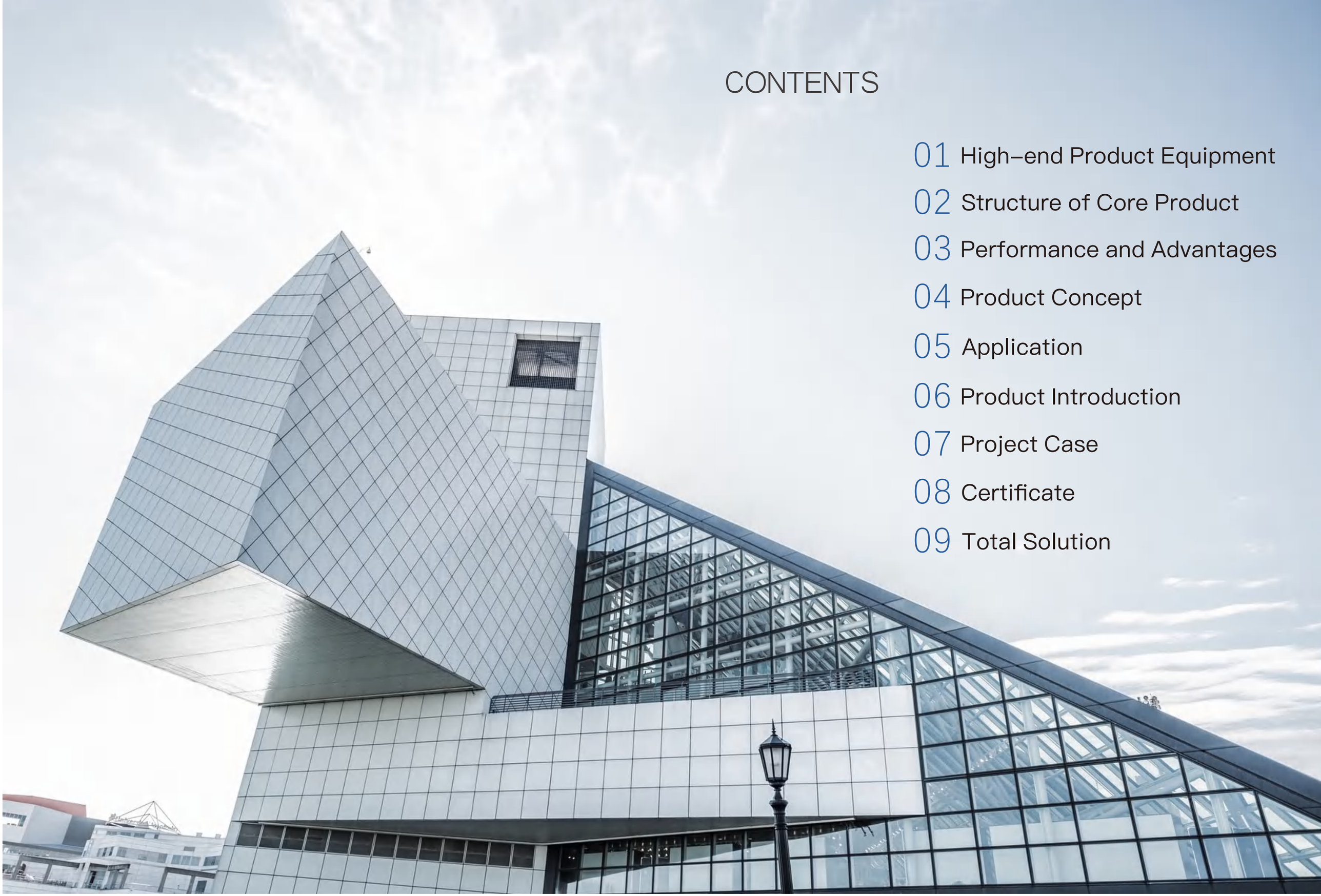
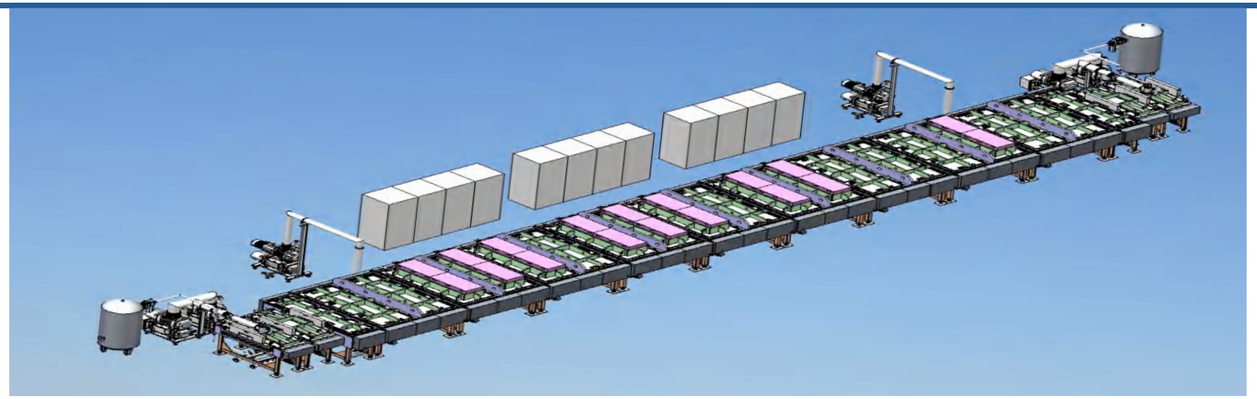


HIGH-END PRODUCT EQUIPMENT

In 2018, Ruike developed China's first 100-megawatt CdTe thin-film module production line with fully independent design, independent research and development, and independent intellectual property rights. As many as 40 highly automated process steps are integrated in this first domestic CdTe production line with Industry 4.0 standards. The second generation will have single-line capacity of over 300MW, and the highest world record of over 18% module efficiency. It will be a completely automated, intelligent, data driven, unmanned smart factory with unique features.

Zhongshan Ruike has the capabilities of design, R&D and output of a complete set of CdTe production equipment and semiconductor manufacturing equipment, including large-scale evaporation equipment, magnetron sputtering equipment PVD, HIT equipment, ion implantation equipment, etc., which can realize the turnkey of the entire equipment engineering. The company now has many independent intellectual property equipment patents, filling the domestic gap.

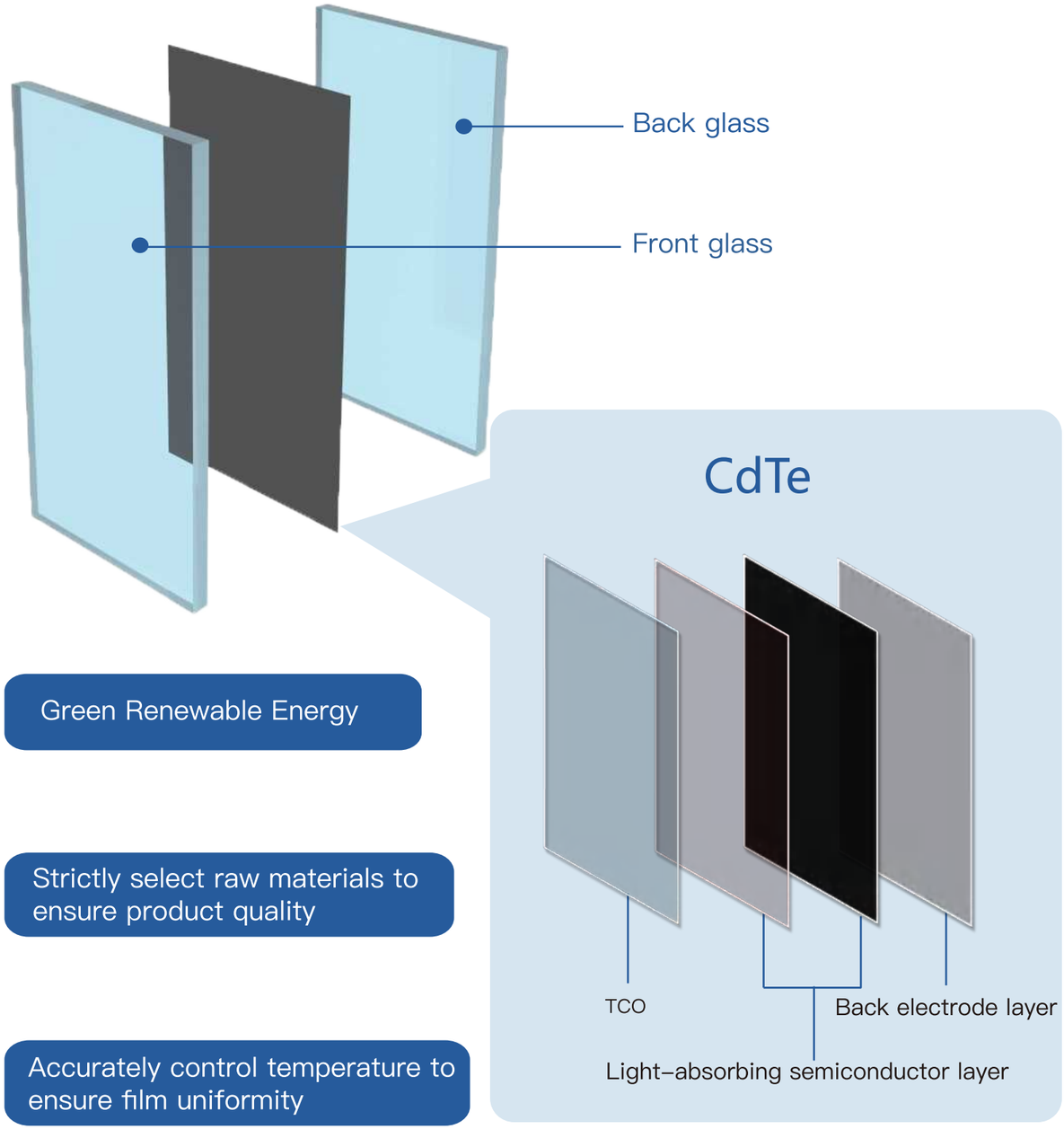


16+% MODULE EFFICIENCY

Vacuum	2×10^{-7} mbar
Coating precision	Nanoscale
Cycle time	25 seconds
Temperature control	± 1 ℃
Laser etching accuracy	⩽10um

Photovoltaic effect

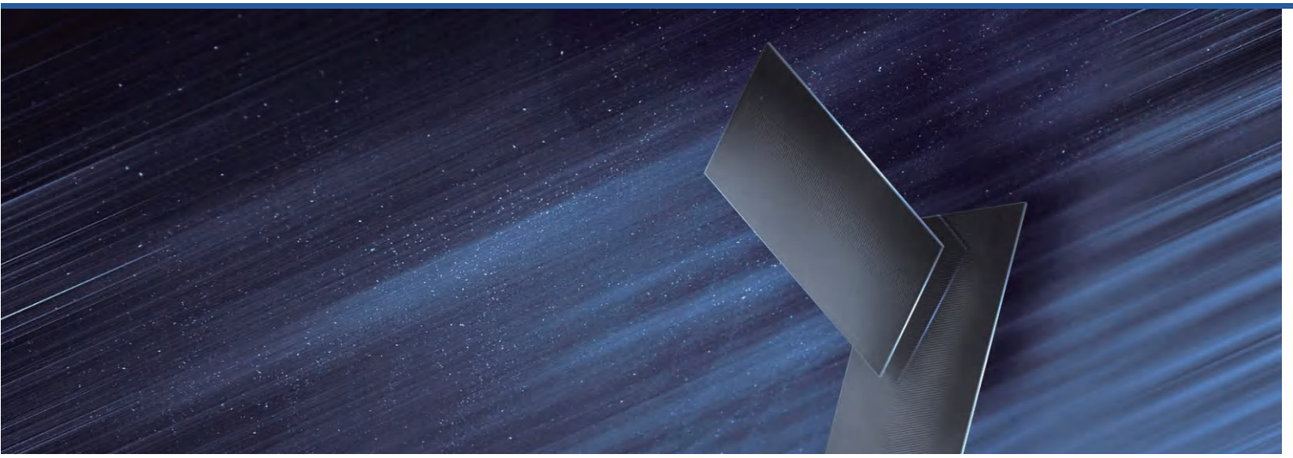
Fireproof
No pollution
Radiation–Free



Green Renewable Energy

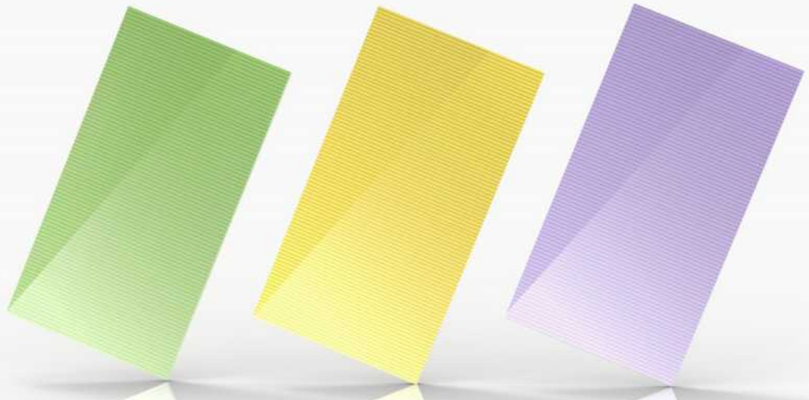
Strictly select raw materials to ensure product quality

Accurately control temperature to ensure film uniformity



Personalized design

Various color



10-Year Limited Product Warranty

25-Year Linear Performance Warranty

ISO9001: 2015
ISO14001: 2015
ISO45001:2018
GB/T 21081
IEC61215, IEC61730, UL61730

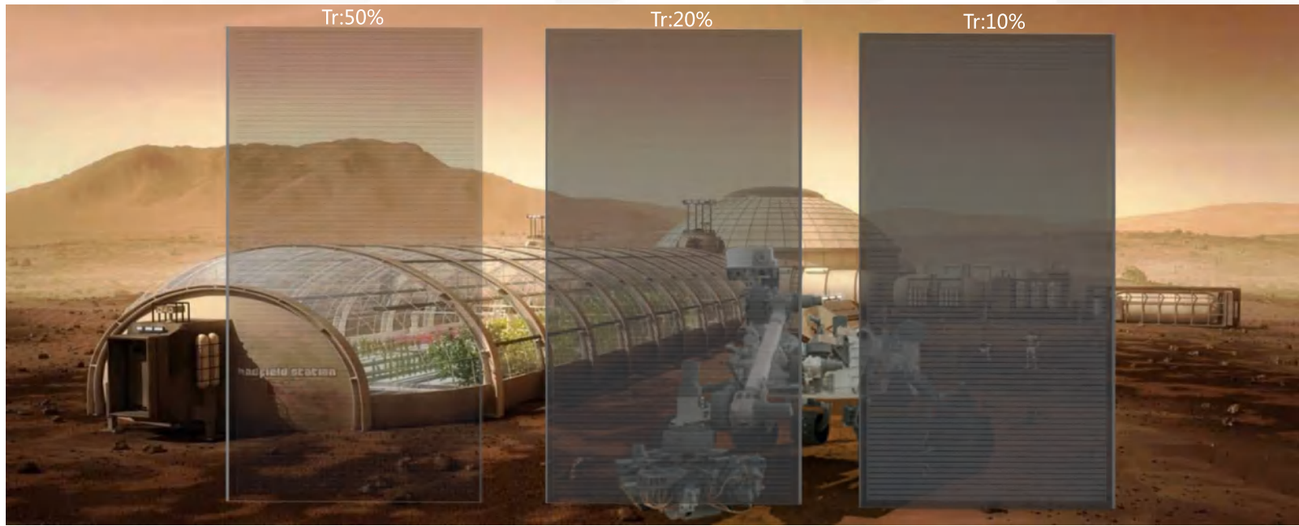
1 Safe and Reliable

2 Attractive and Functional

3 High performance and Cost-efficient

4 Energy-saving and environment-friendly

Customizable transparency

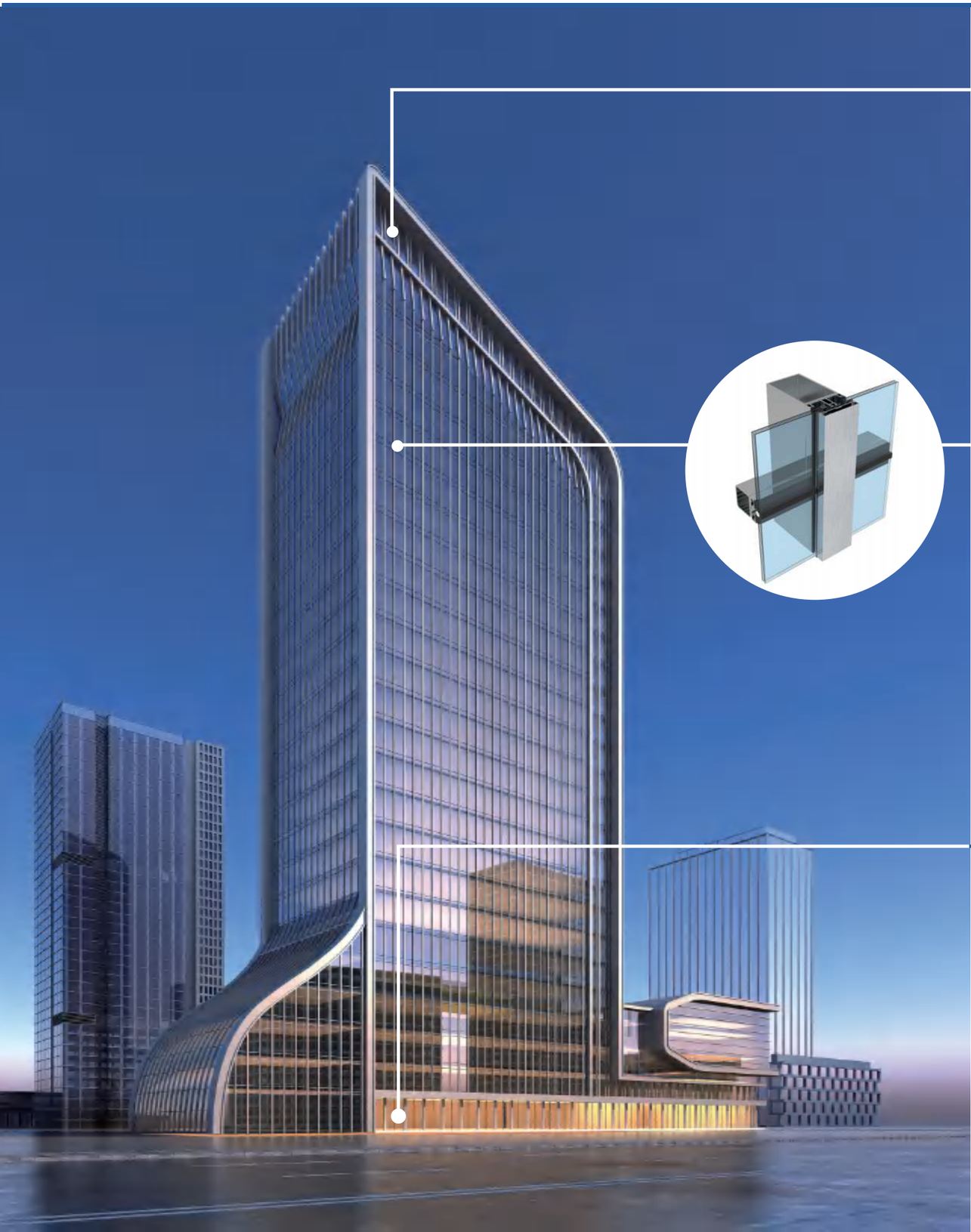


The integration of photovoltaic power generation and building materials is an innovation of traditional building materials and a revolution of photovoltaic industry.

Building **I**ntegrated **P**hotovoltaic

Beautiful **I**nvisible **P**lural **V**alue

APPLICATION-Building Facade



Laminated Power Glass

Transmittance(Tr)	0%~50%
Nominal Power(Wp)	50~300
Size(mm)	1200×600/1200×1200/1200×1800
Structure	5Li+1.52PVB+3.2CdTe+1.52PVB+5C

Frameless design, better integration of architectural, wide application, easy installation, customizable size.
Suitable for building curtain walls, daylighting roofs, sun rooms, etc.

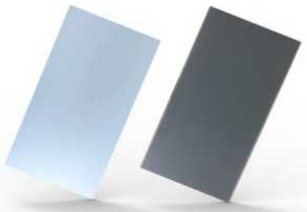
IGU Low-E Power Glass

Transmittance(Tr)	0%~50%
Nominal Power(Wp)	50~300
Size(mm)	1200×600/1200×1200/1200×1800
U-value(W/m^2·k)	1~1.8
Sc	0.2~0.6
Structure	6Li+1.52PVB+3.2CdTe+1.52PVB+6Low-E+12A+6Li

Use high-efficiency CdTe power generation glass chip.
The hollow structure effectively reduces U-value.
Combined with Low-E film, the Sc and U are even lower.
The laminated structure increases the sound insulation effect.

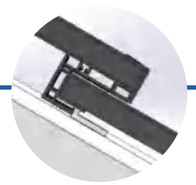
Colorful Power Glass

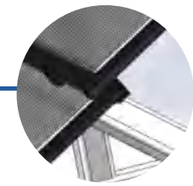
Nominal Power(Wp)	50~300
Size(mm)	1200×600/1200×1200/1200×1800
Structure	5Li+1.52PVB+3.2CdTe+1.52PVB+5C

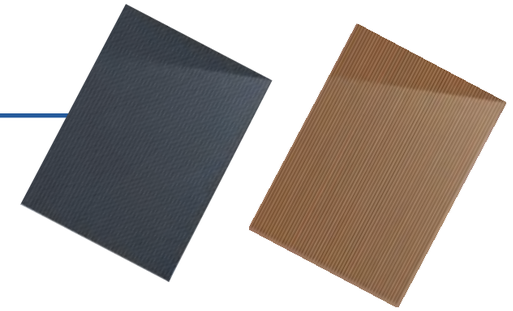


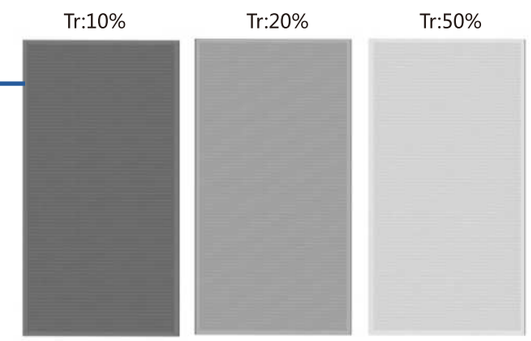
Meet building facade requirements; use frosting, coating, color PVB, ceramic and other methods to cutomize;
Applied to facades, guardrails, spandrel, etc.
Perfectly matched with aluminum plates, stone, and etc.

APPLICATION-Household









- Assembly of integrated PV tiles
- High ROI
- Easy to Install

Household PV tile

Nominal Power(Wp)	33~105
Size(mm)	1200×600/600×400
Structure	3.2CdTe+0.4EVA+3.2C

Replace traditional roof tiles
Safe and reliable
Easy to install
Efficient and economical

Transparent Power Glass

Transmittance(Tr)	10%~50%
Nominal Power(Wp)	50~100
Size(mm)	1200×600
Structure	3.2CdTe+0.4EVA+3.2C

10%~50% light transmission adjustable
Efficient power generation while meet indoor lighting requirements
Free of the power outage

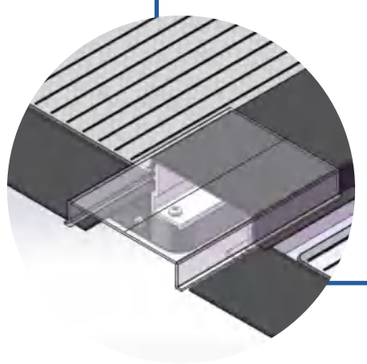
Colored Power Glass

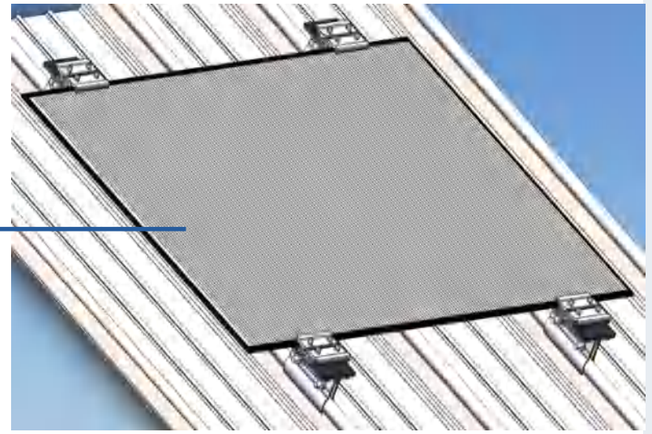
Nominal Power(Wp)	50~100
Size(mm)	1200×600
Structure	5Li+1.52PVB+3.2CdTe+1.52PVB+5Li

Color and pattern can be customized
Personalized customization
Make buildings more beautiful and unique

APPLICATION-Industrial and Commercial Roof

New products are newly developed for traditional industrial and commercial roofs, which are easy to install, save costs, have a high rate of return, good waterproof performance, no hot spot effect, reduce fire risks, and are safe and efficient.





Industrial and Commercial Roof

Nominal Power(Wp)	105~115
Size(mm)	1200×600
Structure	3.2CdTe+0.4EVA+3.2C

One person can complete the installation,

Save BOM cost,

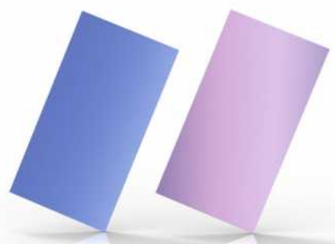
Cover the building requirement,

Applicable to the design requirements of all color steel tiles,

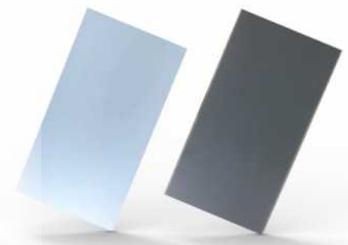
Roof structure and photovoltaic construction division,

Convenient for acceptance and quality assurance,

No negative impact on the roof's insulation and heat dissipation .



Colored

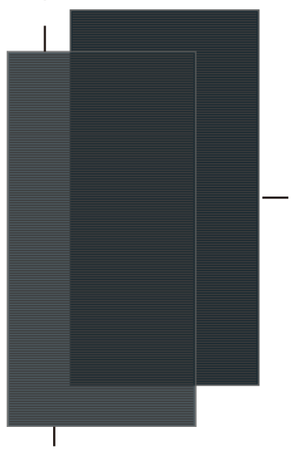


Imitation metal

Imitation Ceramic

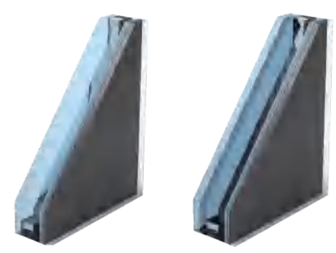
Imitation stone

Color and pattern can be customized

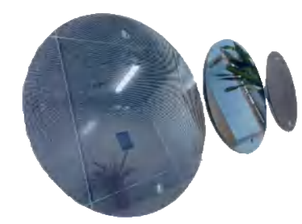


BIPV

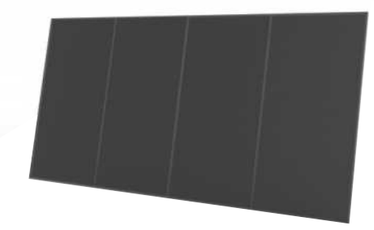
Meet the needs of construction



IGU laminate



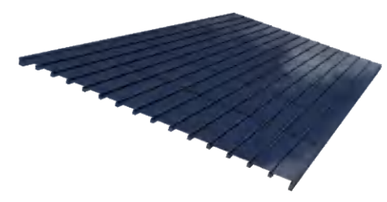
Shaped



Big size

Provide multiple solutions for the roof

Industrial and commercial roof

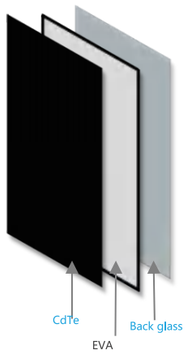


Household PV Tiles

Power Buildings and Beautify Cities

The integration of traditional photovoltaics with building materials expands the application fields of photovoltaic products.
It not only has high-efficiency power generation performance but also conforms to the aesthetics of modern buildings. It has become a green building material integrated safety, practicality, environmental protection, energy saving and beauty.

STANDARD PV MODULE



Mechanical Specification

Size	L :	730mm
	W :	1120mm
	H :	1430mm
Weight	640Kg	
Each Box	50pcs	
Standard Container (20feet)	14 box , 750pcs	
Standard Container (40feet)	30 box , 1500pcs	

Mechanical Specification

Size	1200*600*6.8mm
Weight	12Kg
Area	0.72m²
Structure	3.2CdTe+0.4EVA+3.2C
Type	CdTe
Junction Box	Back, Side , cable 2.5mm² , 650±10mm
Connectors	MC4

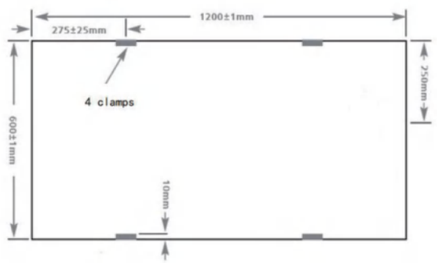
Light and Heat Performance Data

Transmittance (%) :	0
Reflectivity out (%) :	8
Reflectivity in (%) :	30
U-value (W/m²·K) :	5.76
Sc :	0.31
Rw (dB) :	34

Electrical Specification

Model	RK-105	RK-110	RK-115
Nominal Power (Pmpp)	105Wp	110Wp	115Wp
Power Tolerance	±5%	±5%	±5%
Short Circuit Current (Isc)	2.48A	2.48A	2.5A
Open Circuit Voltage (Voc)	61.9V	63.0V	64.0V
Current at Pmax (Impp)	2.16A	2.26A	2.27A
Voltage at Pmax (Vmpp)	48.6V	48.6V	50.7V

STC : 1000W/m² , AM1.5 , 25℃



System Integration Characteristic Specification

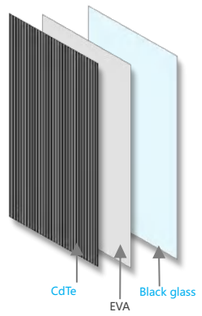
Max System Voltage	DC1000V(IEC)	Protection Level	IP65
Max Reverse Current	6A	Burning Class	A2
Snow Load	5400Pa (IEC)	Temperature Coefficient (Pmax)	-0.29%/ ℃
Wind Load	2400Pa (IEC)	Temperature Coefficient (Voc)	-0.28%/℃
Temperature Range	-40℃~+85℃	Temperature Coefficient (Isc)	+0.04%/℃
Anti-hail Rating	IV		

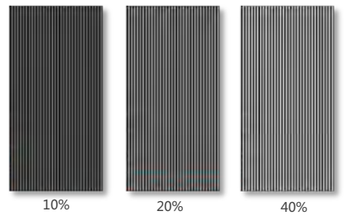
A safety factor of 1.5 has been considered during the test

5 -years limited product warranty

25-years linear performance warranty

TRANSPARENT PV MODULE





Mechanical Specification

Size	L :	730mm
	W :	1120mm
	H :	1430mm
Weight	640Kg	
Each Box	50pcs	
Standard Container (20feet)	14 box , 750pcs	
Standard Container (40feet)	30 box , 1500pcs	

Mechanical Specification

Size	1200*600*6.8mm
Weight	12Kg
Area	0.72m²
Structure	3.2CdTe+0.4EVA+3.2C
Type	CdTe
Junction Box	Back, Side , cable 2.5mm² , 650±10mm
Connectors	MC4

Light and Heat Performance Data

Transmittance (%) :	0~50
Reflectivity out (%) :	7~15
Reflectivity in (%) :	20~30
U-value (W/m²·K) :	5.76
Sc :	0.31~0.70
Rw (dB) :	34

Electrical Specification

Model	RK-T0	RK-T10	RK-T20	RK-T40
Transmittance	0	10%	20%	40%
Nominal Power (Pmpp)	105	95	80	60
Power Tolerance	±5%	±5%	±5%	±5%
Short Circuit Current (Isc)	1.24	1.12	0.99	0.74
Open Circuit Voltage (Voc)	123.8	123.8	123.8	123.8
Current at Pmax (Impp)	1.08	0.97	0.86	0.65
Voltage at Pmax (Vmpp)	97.2	96.1	94.8	90.7

STC : 1000W/m² , AM1.5 , 25℃

System Integration Characteristic Specification

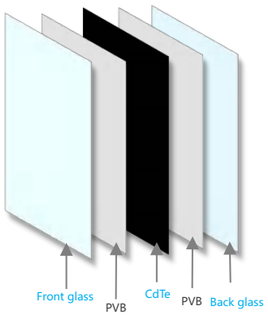
Max System Voltage	DC1000V(IEC)	Protection Level	IP65
Max Reverse Current	6A	Burning Class	A2
Snow Load	6000Pa (IEC)	Temperature Coefficient (Pmax)	-0.29%/ ℃
Wind Load	6000Pa (IEC)	Temperature Coefficient (Voc)	-0.28%/℃
Temperature Range	-40℃~+85℃	Temperature Coefficient (Isc)	+0.04%/℃
Anti-hail Rating	IV		

A safety factor of 1.5 has been considered during the test

10 -years limited product warranty

25-years linear performance warranty

LAMINATED IGU POWER GLASS



Mechanical Specification

Size	L : 690mm
	W : 1140mm
	H : 1375mm
Weight	820Kg
Each Box	30 pcs

Mechanical Specification

Size	1200*600*16.2mm
Weight	26Kg
Area	0.72m²
Structure	5Li+1.52PVB+3.2CdTe+1.52PVB+5Li
Type	CdTe
Junction Box	Back, Side , cable 2.5mm² , 650±10mm
Connectors	MC4

Glass thickness can be selected according to design requirement,5mm,6mm,8mm,10mm,
Various sizes can be selected according to customer requirements

Light and Heat Performance Data

Transmittance (%) :	0
Reflectivity out (%) :	7~8
Reflectivity in (%) :	36
U-value (W/m²·K) :	4.70
Sc :	0.27
Rw (dB) :	42

Electrical Specification

Model	RK-JN-RTN	RK-JN-HTN
Nominal Power (Pmpp)	100	100
Power Tolerance	±5%	±5%
Short Circuit Current (Isc)	1.16	2.33
Open Circuit Voltage(Voc)	119.4	59.7
Current at Pmax (Impp)	1.01	2.02
Voltage at Pmax (Vmpp)	96.6	48.3

STC : 1000W/m² , AM1.5 , 25℃

System Integration Characteristic Specification

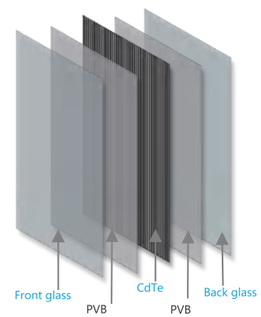
Max System Voltage	DC1000V(IEC)	Protection Level	IP65
Max Reverse Current	6A	Burning Class	A2
Snow Load	6000Pa (IEC)	Temperature Coefficient (Pmax)	-0.29%/ ℃
Wind Load	6000Pa (IEC)	Temperature Coefficient (Voc)	-0.28%/℃
Temperature Range	-40℃~+85℃	Temperature Coefficient (Isc)	+0.04%/℃
Anti-hail Rating	IV		

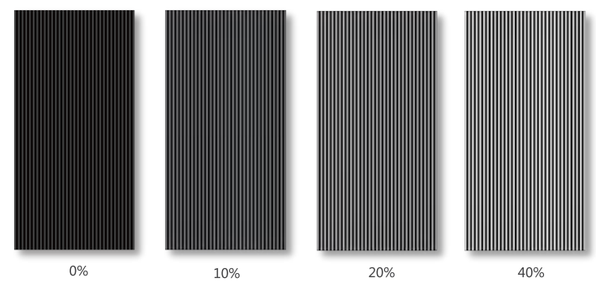
A safety factor of 1.5 has been considered during the test

10-years limited product warranty

25-years linear performance warranty

TRANSPARENT SERIES





Mechanical Specification

Size	1200*600*16.2mm
Weight	26Kg
Area	0.72m²
Structure	5Li+1.52PVB+3.2CdTe+1.52PVB+5Li
Type	CdTe
Junction Box	Side, cable 2.5mm² , 650±10mm
Connectors	MC4

Glass thickness can be selected according to design requirements , 5mm, 6mm, 8mm, 10mm
Various sizes can be selected according to customer requirements

Light and Heat Performance Data

Transmittance (%) :	0~42
Reflectivity out (%) :	7-8
Reflectivity in (%) :	22~36
U-value (W/m²·K) :	4.70
Sc :	0.27~0.56
Rw (dB) :	42

Electrical Specification

Model	RK-JN-RTN-T10	RK-JN-RTN-T20	RK-JN-RTN-T40
Transmittance	10%	20%	40%
Nominal Power (Pmpp)	90	80	60
Power Tolerance	±5%	±5%	±5%
Short Circuit Current (Isc)	1.21	1.06	0.72
Open Circuit Voltage (Voc)	117	117	117
Current at Pmax (Impp)	1.03	0.92	0.69
Voltage at Pmax (Vmpp)	87	87	87

STC : 1000W/m² , AM1.5 , 25℃

System Integration Characteristic Specification

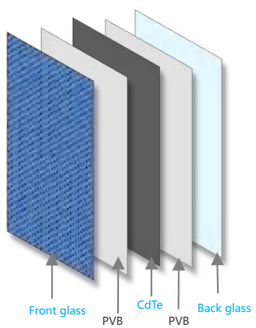
Max System Voltage	DC1000V(IEC)	Protection Level	IP65
Max Reverse Current	6A	Burning Class	A2
Snow Load	6000Pa (IEC)	Temperature Coefficient (Pmpp)	-0.29%/ ℃
Wind Load	6000Pa (IEC)	Temperature Coefficient (Voc)	-0.28%/℃
Temperature Range	-40℃~+85℃	Temperature Coefficient (Isc)	+0.04%/℃
Anti-hail Rating	IV		

A safety factor of 1.5 has been considered during the test

10-years limited product warranty

25-years linear performance warranty

COLOR SERIES



Gray Dark blue Sky blue Brown

Mechanical Specification

Size	L : 690mm
	W : 1140mm
	H : 1375mm
Weight	820Kg
Each Box	30 pcs

Mechanical Specification

Size	1200*600*16.2mm
Weight	26Kg
Area	0.72m²
Structure	5Li +1.52PVB+3.2CdTe+1.52PVB+5Li
Type	CdTe
Junction Box	Back, Side , cable 2.5mm² , 650±10mm
Connectors	MC4

Glass thickness can be selected according to design requirement,5mm,6mm,8mm,10mm
Various sizes can be selected according to customer requirements

Light and Heat Performance Data

Transmittance (%) :	0
Reflectivity out (%) :	7~15
Reflectivity in (%) :	22~36
U-value (W/m²·K) :	4.70
Sc	0.27~0.56
Rw (dB) :	42

Electrical Specification

Model	RK-JC-RTN	RK-JC-RTN	RK-JC-RTN	RK-JC-RTN
Color	Gray	Dark blue	Sky blue	Brown
Nominal Power (Pmax)	85Wp	90Wp	85Wp	80Wp
Power Tolerance	±5%	±5%	±5%	±5%
Short Circuit Current (Isc)	1.07A	1.13A	1.08A	1.06A
Open Circuit Voltage(Voc)	117.2V	118.4V	118V	117.2V
Current at Pmax (Impp)	0.93A	0.97A	0.91A	0.92A
Voltage at Pmax (Vmpp)	92.0V	91.1V	94.7V	90.1V

STC : 1000W/m² , AM1.5 , 25℃
Cover the color of Low-E glass: RK-LowE-01、RK-LowE-02、RK-LowE-03、RK-LowE-04

System Integration Characteristic Specification

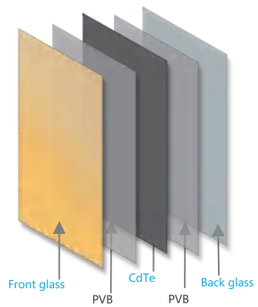
Max System Voltage	DC1000V(IEC)	Protection Level	IP65
Max Reverse Current	6A	Burning Class	A2
Snow Load	6000Pa (IEC)	Temperature Coefficient (Pmax)	-0.29%/ ℃
Wind Load	6000Pa (IEC)	Temperature Coefficient (Voc)	-0.28%/℃
Temperature Range	-40℃~+85℃	Temperature Coefficient (Isc)	+0.04%/℃
Anti-hail Rating	Ⅳ		

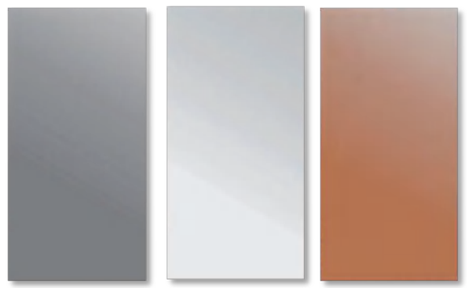
A safety factor of 1.5 has been considered during the test

10-years limited product warranty

25-years linear performance warranty

METAL IMITATION SERIES





Silver gray Silver white Red copper

Mechanical Specification

Size	1200*600*16.2mm
Weight	26Kg
Area	0.72m²
Structure	5Li+1.52PVB+3.2CdTe+1.52PVB+5Li
Type	CdTe
Junction Box	Back, Side , cable 2.5mm² , 650±10mm
Connectors	MC4

Glass thickness can be selected according to design requirements , 5mm, 6mm, 8mm, 10mm
Various sizes can be selected according to customer requirements

Light and Heat Performance Data

Transmittance (%) :	0
Reflectivity out (%) :	7~15
Reflectivity in (%) :	22~36
U-value (W/m²·K) :	4.70
Sc	0.27~0.56
Rw (dB) :	42

Electrical Specification

Model	RK-JM-RTN	RK-JM-HTN	RK-JM-RTN	RK-JM-HTN
Color	Silver gray		Silver white/red copper	
Nominal Power (Pmax)	80Wp	80Wp	60Wp	60Wp
Power Tolerance	±5%	±5%	±5%	±5%
Short Circuit Current (Isc)	1.21A	2.42A	0.72A	1.44A
Open Circuit Voltage(Voc)	117V	58.5V	117V	58.5V
Current at Pmax (Impp)	0.92A	1.84A	0.69A	1.38A
Voltage at Pmax (Vmpp)	87V	43.5V	87V	43.5V

STC : 1000W/m² , AM1.5 , 25℃

System Integration Characteristic Specification

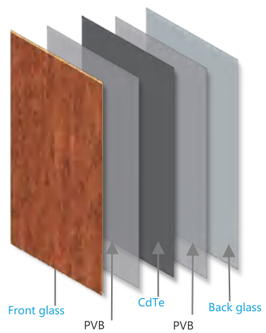
Max System Voltage	DC1000V(IEC)	Protection Level	IP65
Max Reverse Current	6A	Burning Class	A2
Snow Load	5000Pa (IEC)	Temperature Coefficient (Pmpp)	-0.29%/ ℃
Wind Load	5000Pa (IEC)	Temperature Coefficient (Voc)	-0.28%/℃
Temperature Range	-40℃~+85℃	Temperature Coefficient (Isc)	+0.04%/℃
Anti-hail Rating	Ⅳ		

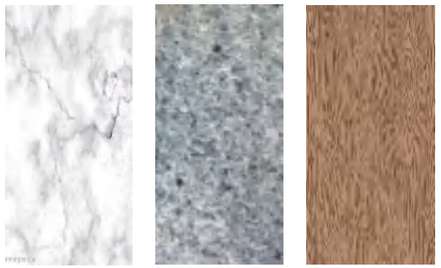
A safety factor of 1.5 has been considered during the test

10-years limited product warranty

25-years linear performance warranty

STONE IMITATION SERIES





Mechanical Specification

Size	1200*600*16.2mm
Weight	26Kg
Area	0.72m²
Structure	5Li+1.52PVB+3.2CdTe+1.52PVB+5Li
Type	CdTe
Junction Box	Back, Side， cable 2.5mm²，650±10mm
Connectors	MC4

Glass thickness can be selected according to design requirements，5mm, 6mm, 8mm, 10mm
Various sizes can be selected according to customer requirements

Light and Heat Performance Data

Transmittance (%) ：	0
Reflectivity out (%) ：	7~15
Reflectivity in (%) ：	20~30
U-value (W/m²·K) ：	5.20
Sc ：	0.35~0.40
Rw (dB) ：	38

Electrical Specification

Model	RK-JS-RTN-01	RK-JS-HTN-01	RK-JS-RTN-02	RK-JS-HTN-02
Design	Marble		Wood grain	
Nominal Power (Pmax)	60Wp	60Wp	60Wp	60Wp
Power Tolerance	±5%	±5%	±5%	±5%
Short Circuit Current (Isc)	0.72A	1.44A	0.72A	1.44A
Open Circuit Voltage(Voc)	117V	58.5V	117V	58.5V
Current at Pmax (Impp)	0.69A	1.38A	0.69A	1.38A
Voltage at Pmax (Vmpp)	87V	43.5V	87V	43.5V

STC：1000W/m²，AM1.5，25℃

System Integration Characteristic Specification

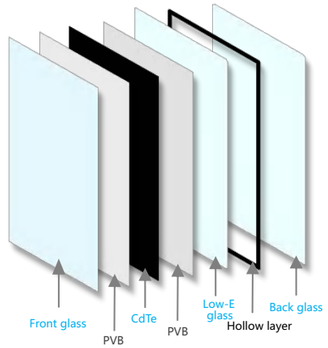
Max System Voltage	DC1000V(IEC)	Protection Level	IP65
Max Reverse Current	6A	Burning Class	A2
Snow Load	6000Pa (IEC)	Temperature Coefficient (Pmpp)	-0.29%/℃
Wind Load	6000Pa (IEC)	Temperature Coefficient (Voc)	-0.28%/℃
Temperature Range	-40℃~+85℃	Temperature Coefficient (Isc)	+0.04%/℃
Anti-hail Rating	IV		

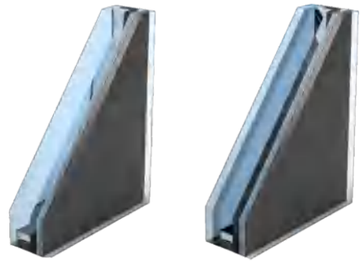
A safety factor of 1.5 has been considered during the test

10 -years limited product warranty

25-years linear performance warranty

IGU LOW-E POWER GLASS





Mechanical Specification

Size	1200*1800*36.2mm
Weight	121Kg
Area	2.16m²
Structure	6Li+1.52PVB+3.2CdTe+1.52PVb+6Low-E+12A+6Li
Hollow Layer	12A
Type	CdTe
Junction Box	Back, Side， cable 2.5mm²，650±10mm
Connectors	MC4

Glass thickness can be selected according to design requirement,5mm,6mm
The hollow layer can be 12A,16A,12Ar,16Ar
Various sizes can be selected according to customer requirements

Light and Heat Performance Data

Transmittance (%) ：	0~35
Reflectivity out (%) ：	8~10
Reflectivity in (%) ：	26~38
U-value (W/m²·K) ：	1.8~2.5
Sc	0.12~0.42
Rw (dB) ：	46

Electrical Specification

Model	RK-JN-RTI	RK-JN-RTI-T20
Transmittance	0%	20%
Nominal Power (Pmax)	300Wp	240Wp
Power Tolerance	±5%	±5%
Short Circuit Current (Isc)	3.69A	3.18A
Open Circuit Voltage(Voc)	121.7V	117V
Current at Pmax (Impp)	3.18A	2.76A
Voltage at Pmax (Vmpp)	94.1V	87V

STC：1000W/m²，AM1.5，25℃

System Integration Characteristic Specification

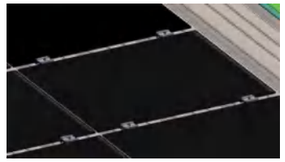
Max System Voltage	DC1000V(IEC)	Protection Level	IP65
Max Reverse Current	6A	Burning Class	A2
Snow Load	6000Pa (IEC)	Temperature Coefficient (Pmpp)	-0.29%/℃
Wind Load	6000Pa (IEC)	Temperature Coefficient (Voc)	-0.28%/℃
Temperature Range	-40℃~+85℃	Temperature Coefficient (Isc)	+0.04%/℃
Anti-hail Rating	IV		

A safety factor of 1.5 has been considered during the test

10-years limited product warranty

25-years linear performance warranty

Industrial and Commercial Roof



Mechanical Specification

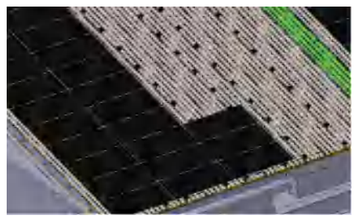
Size	L : 730mm
	W : 1120mm
	H : 1430mm
Weight	640Kg
Each Box	50 pcs
Standard Container（20feet）	14Box ,750pcs
Standard Container（40feet）	30Box ,1500pcs

Mechanical Specification

Size	1200*600*6.8mm
Weight	12Kg
Area	0.72m²
Structure	3.2CdTe+0.4EVA+3.2C
Type	CdTe
Junction Box	Back, Side， cable 2.5mm²，650±10mm
Connectors	MC4

Light and Heat Performance Data

Transmittance（%）：	0
Reflectivity out（%）：	8
Reflectivity in（%）：	30
U-value（W/m²·K）：	5.76
Sc：	0.31
Rw（dB）：	34



Electrical Specification

Model	RK-105		RK-110		RK-115	
Nominal Power (Pmax)	105		110		115	
Power Tolerance	±5%		±5%		±5%	
Short Circuit Current (Isc)	1.24	2.48	1.24	2.48	1.25	2.5
Open Circuit Voltage(Voc)	123.8	61.9	126.1	63.1	126.5	63.3
Current at Pmax (Impp)	1.08	2.16	1.11	2.22	1.14	2.28
Voltage at Pmax (Vmpp)	97.2	48.6	99.8	49.9	100.8	50.4

STC：1000W/m²，AM1.5，25℃

System Integration Characteristic Specification

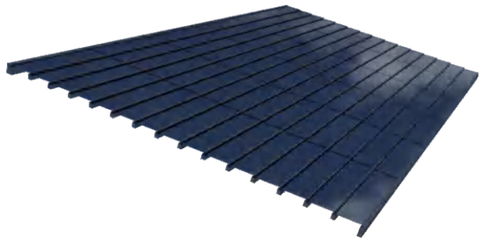
Max System Voltage	DC1000V(IEC)	Protection Level	IP65
Max Reverse Current	6A	Burning Class	A2
Snow Load	5400Pa（IEC）	Temperature Coefficient（Pmax）	-0.29%/ ℃
Wind Load	2400Pa（IEC）	Temperature Coefficient（Voc）	-0.28%/℃
Temperature Range	-40℃~+85℃	Temperature Coefficient（Isc）	+0.04%/℃
Anti-hail Rating	IV		

A safety factor of 1.5 has been considered during the test

5-years limited product warranty

25-years linear performance warranty

Household PV Tiles



Mechanical Specification

Model	RK-WN-RDN-K24	RK-WN-RDN-K36	RK-WN-RDN-K72
Size(+Attached frame)	434*608*22	1234*308*22	1234*608*22
Size	400*600*6.8	1200*300*6.8	1200*600*6.8
Weight	0.24m²	0.36m²	0.72m²
Area	4.3Kg	6.5Kg	12.6kg
Structure	3.2CdTe+0.4EVA+3.2C		
Attached frame	Anodized aluminum frame， black		
Type	CdTe		
Junction Box	Back, Side， cable 2.5mm²，650±10mm		
Connectors	MC4		

Electrical Specification

Model	RK-WN-RDN-K24	RK-WN-HDN-K36	RK-WN-HDN-K72
Nominal Power (Pmax)	33	51	105
Power Tolerance	±5%	±5%	±5%
Short Circuit Current (Isc)	1.24	1.21	2.48
Open Circuit Voltage(Voc)	39.0	61.9	61.9
Current at Pmax (Impp)	1.08	1.05	2.16
Voltage at Pmax (Vmpp)	30.6	48.6	48.6

STC：1000W/m²，AM1.5，25℃

System Integration Characteristic Specification

Max System Voltage	DC1000V(IEC)	Protection Level	IP65
Max Reverse Current	6A	Burning Class	A2
Snow Load	5400Pa（IEC）	Temperature Coefficient（Pmax）	-0.29%/ ℃
Wind Load	2400Pa（IEC）	Temperature Coefficient（Voc）	-0.28%/℃
Temperature Range	-40℃~+85℃	Temperature Coefficient（Isc）	+0.04%/℃
Anti-hail Rating	IV		

A safety factor of 1.5 has been considered during the test

5-years limited product warranty

25-years linear performance warranty

PROJECT CASE ——BIPV

2022 Beijing Winter Olympics Speed Skating Oval Project

Structure：5Li Coating+1.52PVB+3.2CdTe+1.52PVB+5C
Location：Beijing

Qinghai Science and Technology Innovation Center

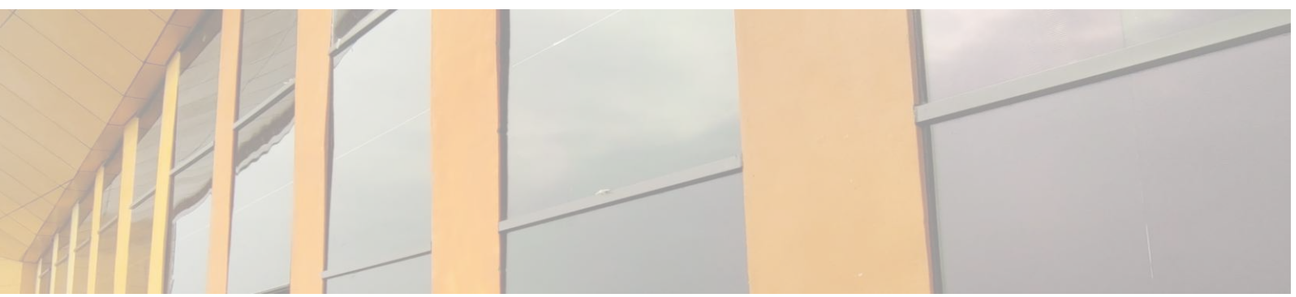
Structure : 5Li+1.52PVB+3.2CdTe+1.52PVB+5Li+12A+6Li
Location : Qinghai

Datong Terry New Material Engineering R&D Building

Structure : 5Li+1.52PVB+3.2CdTe+1.52PVB+5C
Location : Shanxi

Nanning China Resources 24th City BIPV Project

Syructure : 8C+1.52PVB+3.2CdTe+1.52PVB+8C
Location : nanning



Nanjing Talent Apartment

Structure : 5Li+1.52PVB+3.2CdTe+1.52PVB+5Li
Location : Nanjing

PROJECT CASE ——Sunroom

Country Garden Bright Dream Robot Project

Structure :
5Li+1.52PVB+3.2CdTe+1.52PVB+5CLow-E+12A+5C+1.52PVB+5C
Location : Guangdong

Netherlands Project

Structure : 3.2CdTe+0.4EVA+3.2C
Location : Netherlands

Shanghai No. 87 Villa

Structure : 5C+1.52PVB+3.2CdTe+1.52PVB+5C
Location : Shanghai

Zhuhai Skylight

Structure : 3.2CdTe+0.4EVA+3.2C
Location : Zhuhai

Changsha Sunroom

Structure : 3.2CdTe+0.4EVA+3.2C
Location : Changsha

Industrial Roof of Mingyang Headquarter

Structure : 3.2CdTe+0.4EVA+3.2C

Location : Guangdong

Industrial Roof of Xinyang Base

Structure : 3.2CdTe+0.4EVA+3.2C

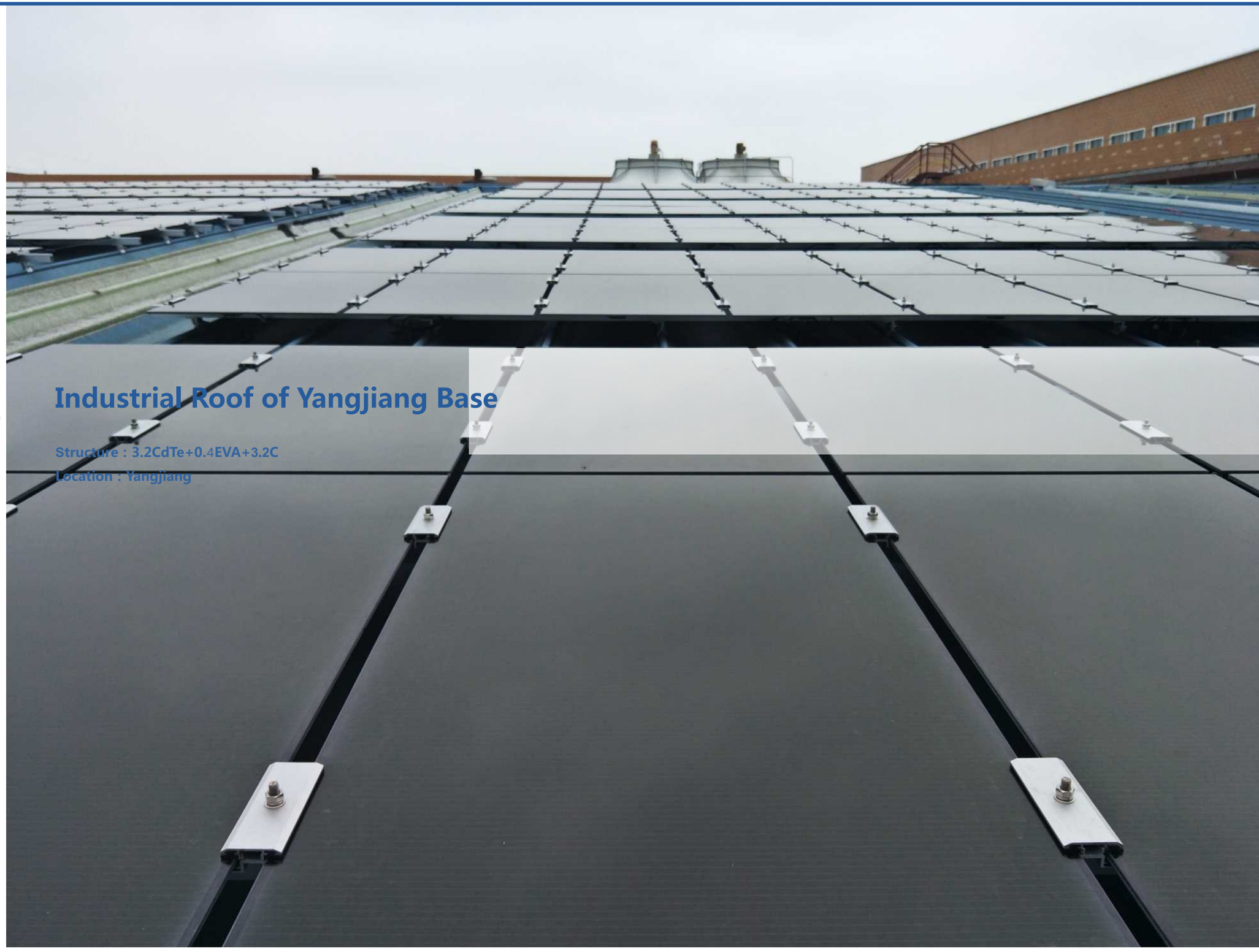
Location : Xinyang

Industrial Roof of Nanlang Base

Structure : 3.2CdTe+0.4EVA+3.2C

Location : Nanlang

PROJECT CASE
——Roof



Industrial Roof of Yangjiang Base

Structure : 3.2CdTe+0.4EVA+3.2C

Location : Yangjiang

Ukraine Ground Power Station

Structure : 3.2CdTe+0.4EVA+3.2C
Location : Ukraine

Xinyang Rooftop Distributed Power Station

Structure : 3.2CdTe+0.4EVA+3.2C
Location : Xinyang

Stats Grid’s Frist BIPV Photovoltaic Village In The Country

Structure : 3.2CdTe+0.4EVA+3.2C
Location : Ningbo

Country Garden Power Rooftop Distributed Power Station

Structure : 3.2CdTe+0.5EVA+3.2C
Location : Guangxi

Sun House Rooftop Distributed Power Station

Structure : 3.2CdTe+0.4EVA+3.2C
Location : Zhongshan

Zhuhai Hilton Rooftop Distributed Power Station

Structure : 3.2CdTe+0.4EVA+3.2C
Location : Zhuhai

PROJECT CASE
——Other application scenarios

2020 China International Fair For Trade In Services " Light Cube"

Structure : 3.2CdTe+0.4EVA+3.2C
Location : Beijing

Photovoltaic Elevator

Structure : 3.2CdTe+0.4EVA+3.2C
Location : Zhongshan

Photovoltaic Greenhouse

Structure : 3.2CdTe+0.4EVA+3.2C
Location : Overseas

Jiangsu Nantong Opera Carport

Structure : 3.2CdTe+0.4EVA+3.2C
Location : Jiangsu

Guangzhou Baiyun District Distribution Station

Structure : 3.2CdTe+0.4EVA+3.2C
Location : Guangzhou


CERTIFICATE

The Certification Body of TÜV SÜD Asia Pacific TÜV SÜD Group certifies that

ZhongShan RuiKe New Energy CO., LTD.
13-2 Torch Road, Torch Development Zone, Zhongshan City, Guangdong Province, P. R. China
Post Code: 528437

has established and applies an Occupational Health and Safety Management System for

Design, Development, Manufacturing and Sales of CdTe Cells and Modules

An audit was performed. Report No. 7484106879.
Proof has been furnished that the requirements according to

OHSAS 18001:2007

are fulfilled. The certificate is valid from 2018-12-11 until 2021-03-31.
Certificate Registration No.: TUV116 04 4091
2018-12-11


CERTIFICATE

The Certification Body of TÜV SÜD Asia Pacific TÜV SÜD Group certifies that

ZhongShan RuiKe New Energy CO., LTD.
13-2 Torch Road, Torch Development Zone, Zhongshan City, Guangdong Province, P. R. China
Post Code: 528437

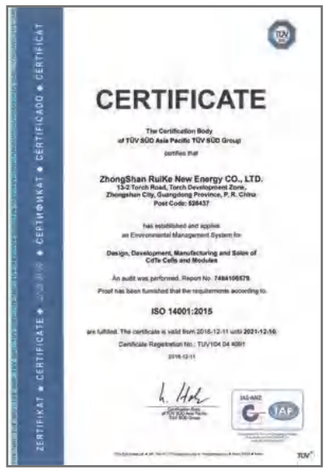
has established and applies a Quality Management System for

Design, Development, Manufacturing and Sales of CdTe Cells and Modules

An audit was performed. Report No. 7484106879.
Proof has been furnished that the requirements according to

ISO 9001:2015

are fulfilled. The certificate is valid from 2018-12-11 until 2021-12-16.
Certificate Registration No.: TUV150 04 4091


CERTIFICATE

The Certification Body of TÜV SÜD Asia Pacific TÜV SÜD Group certifies that

ZhongShan RuiKe New Energy CO., LTD.
13-2 Torch Road, Torch Development Zone, Zhongshan City, Guangdong Province, P. R. China
Post Code: 528437

has established and applies an Environmental Management System for

Design, Development, Manufacturing and Sales of CdTe Cells and Modules

An audit was performed. Report No. 7484106879.
Proof has been furnished that the requirements according to

ISO 14001:2015

are fulfilled. The certificate is valid from 2018-12-11 until 2021-12-16.
Certificate Registration No.: TUV104 04 4091


CERTIFICATE OF COMPLIANCE

Certificate Number: E504931
Report Reference: E504931-20190605-20
Date: 2021-November-01

Issued to: ZhongShan RuiKe New Energy Co Ltd
No 13 Torch Avenue Torch Development Zone
ZhongShan Guangdong 528437 CN

This is to certify that representative samples of: PHOTOVOLTAIC MODULES AND PANELS WITH SYSTEM VOLTAGE RATINGS OVER 600 VOLTS
(See Addendum Page for Product Designation(s))

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate

Standard(s) for Safety: UL 61730-1-UL, Standard for Safety for Photovoltaic (PV) Module Safety Qualification - Part 1: Requirements for Construction
UL 61730-2-UL, Standard for Safety for Photovoltaic (PV) Module Safety Qualification - Part 2: Requirements for Testing

Additional Information: See the UL Online Certifications Directory at https://iq.ul.com/power or for additional information

This Certificate of Compliance does not provide authorization to apply the UL Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Certified products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.


VDE Prüf- und Zertifizierungsinstitut

ZEICHENGENEHMIGUNG
MARKS APPROVAL

Zhongshan Ruike New Energy Co., Ltd
No. 13, Torch Road,
Torch Development Zone
528437 ZHONGSHAN CITY
Guangdong
CHINA

Terrestrische Dünnschicht-Photovoltaik-Module
Thin-film terrestrial photovoltaic modules

VDE


Golden Sun Certificate of Photovoltaic Products

Certificate No.: CGC18001000340

Product Name: Thin-film Terrestrial Photovoltaic (PV) Module

China General Certification Center


中国绿色建材产品认证证书


检 验 报 告
TEST REPORT

国家建筑工程质量监督检验中心
NATIONAL CENTER FOR QUALITY SUPERVISION AND TEST OF BUILDING ENGINEERING


中国国家强制性产品认证证书

谢肇煦

中国质量认证中心

From research and development, production, sales to design, construction, operation and maintenance, Ruike has successfully realized a turnkey engineering model that can be customized, reduce costs and provide a one stop shop service.

Ruike has a professional, standardized and experienced technical team that provides tailored solutions throughout the entire cycle from customized designs to installation and construction, and to after-sales operation and maintenance and other customer support service.

Design

Construction

After sales