LOCIOO

- Smart film
- Switchable/Smar
- Low-R Glass
- Low-R PVB
- Low-R Laminated Glass

LOCIOO

Add: Room 1023,10th floor,Building GuoXun,No.10 of SiZhi Road, ChanCheng District,FoShan City.
Tel: 13288439319
Factory Address: No. 67, Heshun Jinfeng Road, Lishui Town, Nanhai District, Foshan City, Guangdong Province, China (Guangdong Province New Material Industry Base Area B)

Note: The color of the products in this catalogue is for reference only, please refer to the finished products as the final power of interpretation belongs to our company.

Foshan Locioo Co., Ltd

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Company Profile

Foshan Locioo Co., Ltd is a comprehensive high-tech industrial enterprise integrating research and development, production and sales of energy-saving intelligent materials.
The main business: smart PDLC film, switchable/smart glass, Low-R glass, Low-R PVB, Low-R laminated glass, etc..

The company is located at Room 1023,10th floor,Building GuoXun,No.10 of SiZhi Road,ChanCheng District,FoShan City, and the factory address is No. 67 Jinfeng Road, Lishui Town, Nanhai District, Foshan City, Guangdong Province (Guangdong New Material Industry Base B) covering an area of more than 30,000 square meters.After continuous development, the company has established three professional teams of R&D, production and sales and boasts of numerous patents, thousands of square meters of clean workshop,and more than 300 square meters of energy-saving materials showroom. We provide customers with the best quality of various conventional and customized intelligent energy-saving products.

Development History

1994
NANHAI ZHONGNAN POWER METALLURGY Co.,Ltd. was established

2003
Moved to Chenheyuan Industrial Zone, Shayong Village, Lishui Town

2007
Changed the name to FOSHAN JUSHITAI POWER METALLURGY Co.,Ltd.

2010
Developed large size, high density, multifunctional targets successfully

2011
Intelligent dimming glass and energy-saving heat insulation glass projects were initiated, and the company was relocated to Guangdong New Material Industry Base.

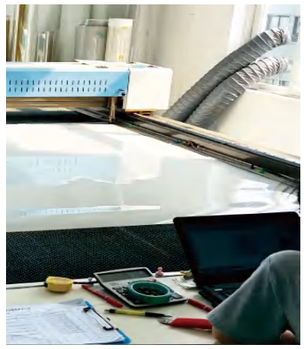
2015
The new type of glass was successfully developed.

2018
Low-R glass developed successfully

2021
LOCIOO
Foshan Locioo Co., Ltd
was founded

Factory Equipment

Smart film Workshop



Laser Cutting Machine for Film

Auto clave

Low-R Glass Production Line

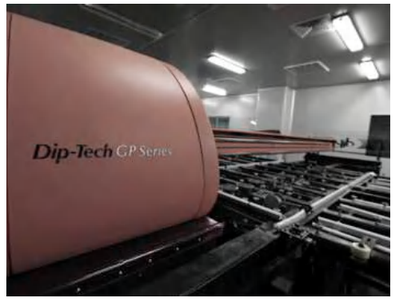
Low-R Glass Production Line

Low-R Coating Line

Low-R PVB Production Line

Low-R PVB Winding Machine

Target Workshop



Dip Tech Digital Printer

Dilli UV Digital Printer

Automatic Laminated Production Line

Heat Soak Furnace

Bystronic IGU Production Line

Coating Production Line

LOW-E Pro duction Line

CNC

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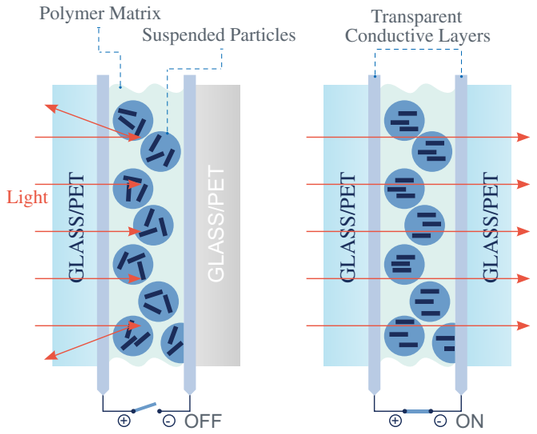
SPD Smart Window

It uses the principle of “ freely controlling the transmittance ” by applying electro nanoparticles between conductive films, allowing light to pass through when electricity is applied, and changing the arrangement of particles based on voltage level.



Product Highlights

Immediate Reaction Time:

Color transition complete within 1-2 sec/m^2 regardless of size

Uniform and Accurate Response:

Regardless of the size of the area, discoloration reaction starts and ends at the same time in all areas of the film

Compatibility and Various Sizes Available:

Combining with not only glass but also plastic substrates, it can be applied to curved surfaces since it is a film type product which can be bent freely(available size: width up to 1.8m, length has no limit)

Dimming Control (Continuous Tinting):

From dark to clear and vice versa, the sunlight transmittance can be freely adjusted (within the range of 1% to 60%)

Light Dark

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Smart Window, the Most Advanced Smart Glass Technology for Automobile, Architecture, and Display.

Automotive roof

It is applicable to sunroofs and side windows. Drivers and passengers can enjoy the view while blocking the solar heat energy. It also improves energy efficiency by reducing cooling energy consumption.

Building window

It is applicable to public institutions, commercial buildings, and residential houses. The SPD smart film, which supports a zero-energy building and building energy management system, will become a necessary complement for future constructions.

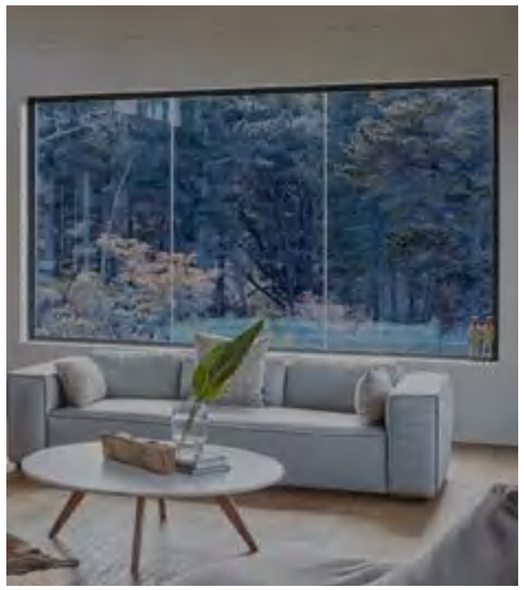
Display and others

As for a transparent display, it is necessary to block external light as needed so that the contents on the display can be seen more clearly, and our SPD is the most suitable for this role. Recently, application to digital signage fields such as transparent OLED and media façade, AR, VR glasses/goggles, etc. is just starting and will be gradually expanding.

Product Specification

ProductSpec.	V-TruT1(Darktype)	V-TruT10(Lighttype)
Visible Light Transmittance	1-40%	10-60%
Solar Heat Gain Coefficient (SHGC)	0.05-0.38	
UV Protection	Min. 99 %	
Switching Speed	⩽ 1 sec	
Product Size (Roll or Cut-to-Fit film)	Width: ⩽ 1.5 m, Length: ⩽ 500m	
Durability under extreme temperature	-20℃ - 90℃	
Power Consumption (W/m2)	1-5 W/	
Operating Voltage	AC 0-120V	

The Smart Window technology makes your life more comfortable.



Your Unique Benefits

— Increase usable floor space and reduce glare without a mechanical blinding system	— Receive or block out plenty of daylight without obstructing the outdoor view by adjusting the Visible Light Transmission (VLT) b/w 1-60%	— Improve thermal comfort by eliminating 5-38% solar heat gain	— Reduce energy consumption up to 20% and the cooling and lighting load up to 40%
— Make a building green by using a smart window system with our automated control system	— Enhance the value of a building and an automobile and occupant/driver satisfaction/wellness	— Increase battery efficiency by reducing cooling energy consumption in EV cars	— Advance carbon footprint and environmental sustainability

SPD Smart Window: ① Automotive Sunroof (application image)

SPD Smart Window: ① Automotive Sunroof (a product of SPDi)

SPD Film of SPDi sold and installed for Daimler Chrysler, EvoBus

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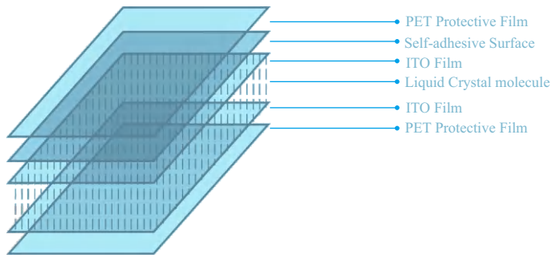
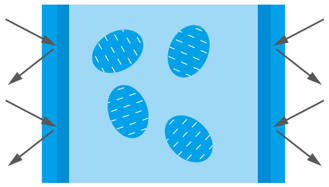
Smart PDLC Film

Smart film is a kind of function film with liquid crystal display, which adopts polymer dispersion liquid crystal (PDLC) as the display structure and two layers of flexible ITO transparent conductive film as the electrode, accomplishing instant switch between transparent and opaque state under the regulation of the applied voltage.

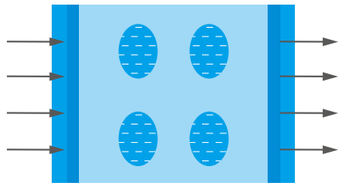
Product Structure



Working Principle



When the power is off, the liquid crystal molecules are lined up in disorder, thus the intelligent membrane shows a foggy state.



When the power is turned on, the liquid crystal molecules are arranged neatly so the intelligent membrane demonstrates a transparent state.

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SMART PDLC FILM/SMART GLASS TECHNICALSPECIFICATIONS AND PARAMETERS

PHYSICAL PROPERTIES	
Working Environment Temperature	−20°~+60°;
Storage Ambient Temperature	−30 ° ~ +70 °;
Impact Strength	Conform to GB 9656-2003 laminated glass national standards;
Anti-radiation	
Moisture Resistance	
Heat Resistance	
Humidity Resistance	
Anti-vibration	
Sound Insulation	
Size Specification	Width 1830*4000mm

OPTICAL PERFORMANCE		
Parallel Light Transmission	ON	>83%;
	OFF	⩽1%;
Visible Light Transmission	ON	>80%;
	OFF	>50%;
Turbidity	ON	<6%;
	OFF	⩾90%;
Viewing Angle	ON	⩾140°;
Switching Speed	OFF−ON	<10ms;
UV Block	OFF	⩾98%;
Infra Block	OFF	>90%;

APPEARANCE QUALITY	
Thickness	Scratches
Glass Thickness x 2 + 2mm	<3mm/m²
Bubble	Inclusions, degumming, burst
<1.5mm/m²	None

ELECTRICAL PERFORMANCES				
Work voltage		Power consumption		
Input	Output	ON	OFF	
AC220V;AC110V;DC24V;DC12V	AC48V−75V/50HZ;	<10ms;	<20ms;	
Min Work Voltage	Power Consumption	Constant ON	Constant ON-OFF	Work Frequency
⩽25V;	<6W/m² ;	>80000h;	>2000000times;	30HZ~400HZ

POWER SUPPLY TECHNICAL PARAMETER			
Input Voltage:	AC220V (AC110V) ± 20% 50HZ ± 5%;	Output voltage:	AC48V~75V±5%;
Output Power:	5W~1000W;	Output current:	0.01A−20A;
Ambient Temperature	-20~+60 （no condensation, no frost);		
Ambient Humidity	90% RH or less (no condensation);		
Insulation Voltage	AC1800V 1M1N;		
Protection	Overcurrent, overvoltage, overload, overheating, moisture, fire protection;		
Standby Mode	Low voltage control high voltage, and with long standby;		
Control Mode			
Switch	Manual, Remote control, Remote and switch control, Infrared control, Light control, Sound Control, Wifi, Bluetooth, P, .Pad, Phone, App etc.		
Dimming	Automatic, Manual, Remote control for dimming;		
FM	Unique FM controller to solve screen flash problem.		

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Switchable Smart Glass

Switchable smart glass is a new type of special photoelectric glass product with a laminated structure of smart dimming film compounded into the middle of two layers of glass and glued together by high temperature and pressure. The user controls the transparent and opaque state of the glass by controlling the on-off current, and the glass itself not only possesses all the characteristics of safety glass, but also boasts of the privacy protection function by controlling two states of the dimming film. Due to the laminated features of PDLC dimming film, smart glass can also be used as a projection screen, presenting high-definition images on the glass to substitute the traditional curtain,

Power-off State

Power-on State

1. Privacy protection function

2. Projection function

3. Safety and explosion-proof function

4. Blocking more than 99% of ultraviolet rays and 98% of infrared rays

5. Sound insulation function

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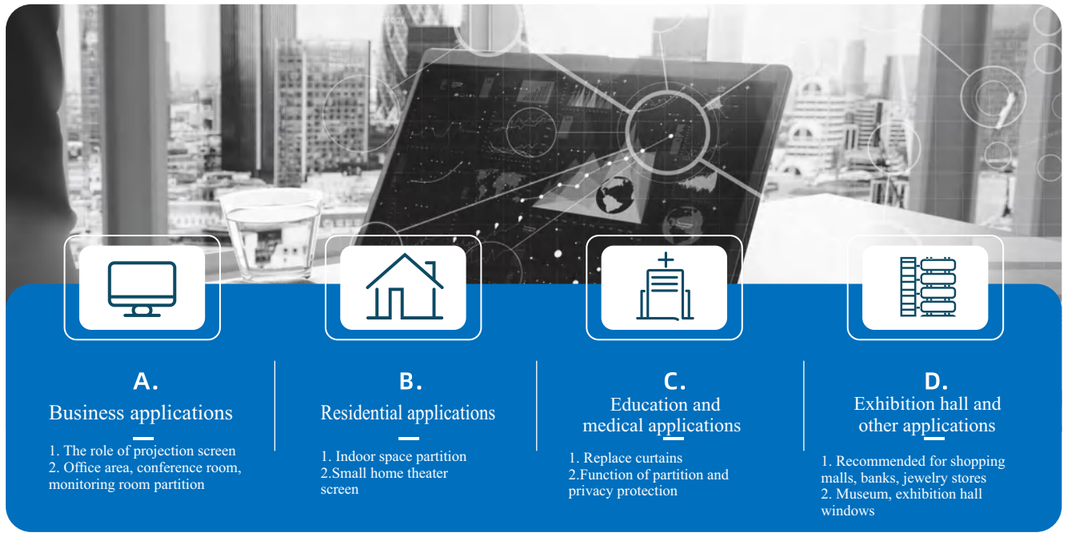
Application/Applicable Scenarios



A. Business applications

1. The role of projection screen
2. Office area, conference room, monitoring room partition

B. Residential applications

1. Indoor space partition
2. Small home theater screen

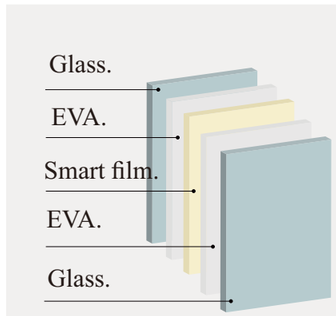
C. Education and medical applications

1. Replace curtains
2. Function of partition and privacy protection

D. Exhibition hall and other applications

1. Recommended for shopping malls, banks, jewelry stores
2. Museum, exhibition hall windows

Smart Glass Structure



SGS

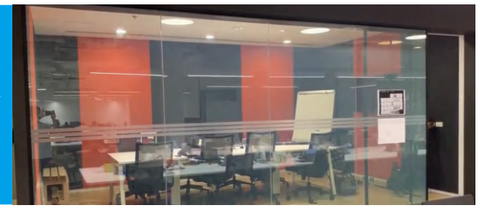
CE

OFF

ON

OFF

ON

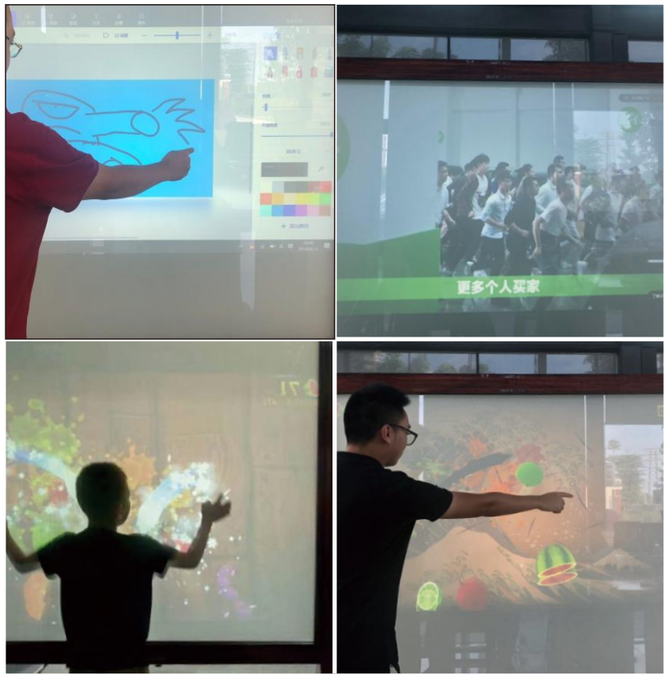


Multi-touch Intelligent Screen

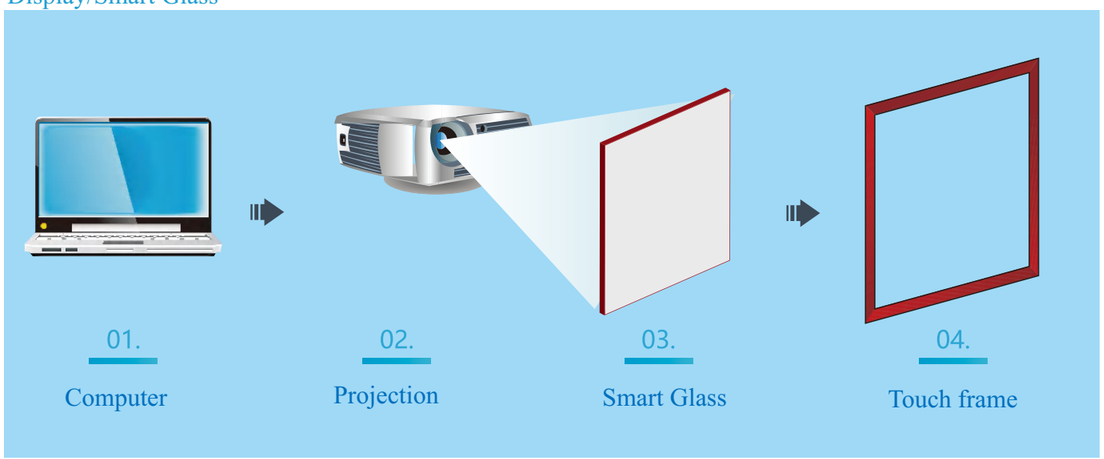
Multi-touch Intelligent Screen：
Consists of smart dimming glass with projection function and infrared touch frame around the glass.

Projection Function:
In the foggy state of smart dimming glass, it can be used as a projection screen for outdoor advertising, home theater,conference room, classroom, etc.

Touch Screen Function.
External set of infrared multi-touch frame around the glass so that interactive touch function could be realized on the glass.
Suitable for windows 7, win8, win10, linux and Android system.



Display/Smart Glass



Application Scenario: school, street store

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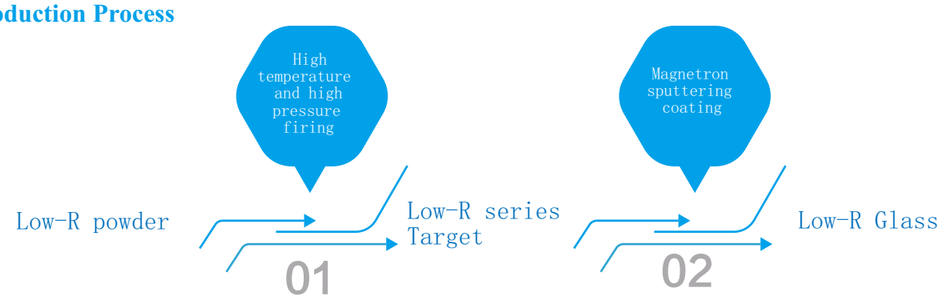
Energy-saving greenhouse

- No need to cover film
- No fan, water curtain, air conditioner installed
- Lowest operating cost for growing organic vegetables

Low-R Glass

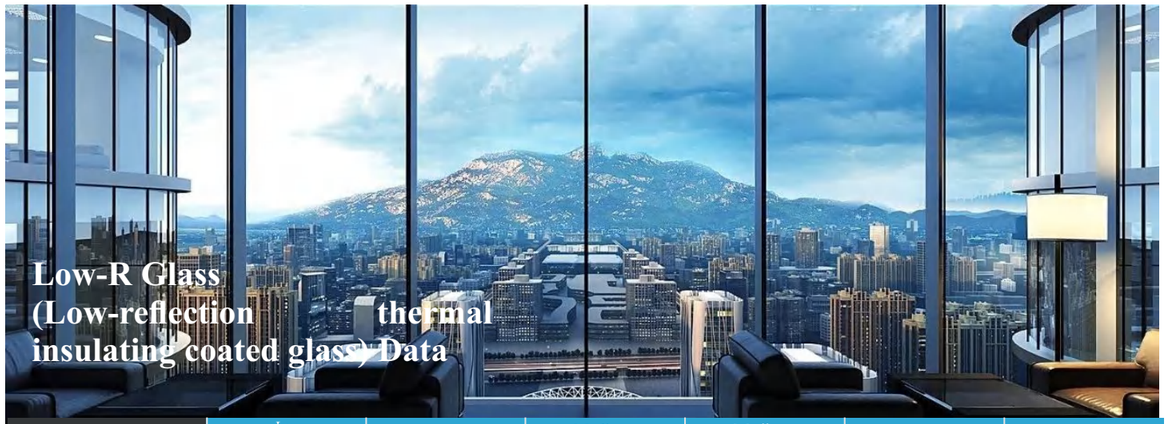
Low-R glass (low reflection heat insulating coated glass) is a new type of multi-magnetron sputtering coated glass independently developed by our company. After an in-depth study of nano-insulation materials, we found that the 10-15nm diameter carriers have a good selective absorption of the spectrum and a good shielding effect on infrared. After making it into magnetron sputtering target, we can sputter a layer of thermal insulation layer of nanometer thickness on the surface of the glass by using a large-size magnetron coating machine to obtain a coated glass with good light absorption, low visible light reflection and solid thermal insulation function, which can be toughened, laminated and hollowed.

Production Process



Patent

1. A nano-ceramic target and its producing technique.
2. A kind of optical nanoceramic insulating glass with enhanced visible light transmission and its production technique.
3. A magnetron sputtering coating line.

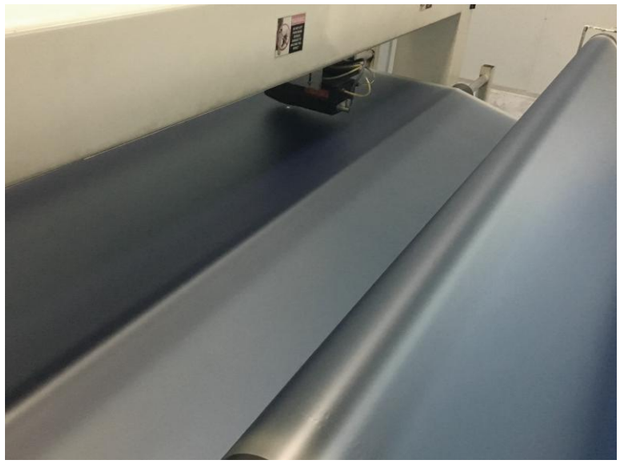


Low-R Glass (Low-reflection thermal insulating coated glass) Data

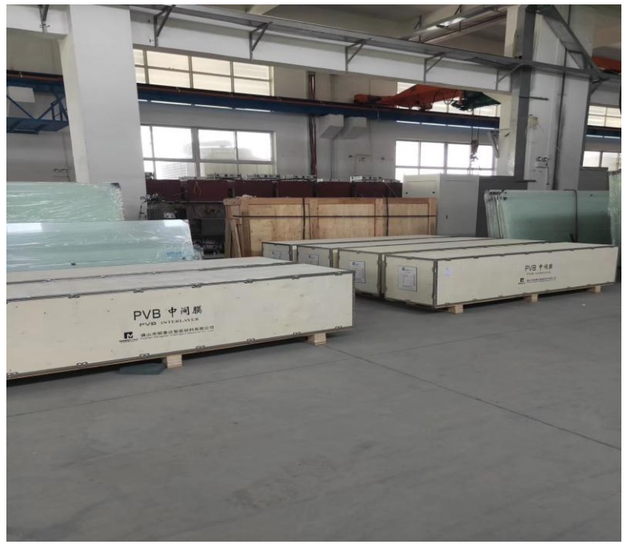
Sample Type		Low Permeability Coating	Hollow, Low Permeability	Medium Permeability Coating	Medium Permeability Hollow	High Permeability Coating	Hollow, High Permeability
Visible Light	Tvis/VL	40	35.2	50	43.6	70	62.08
	Rvis (front)	9	10.09	9	12.92	9	13.44
	Rvis (back)	13	19.37	12	21.09	10	17.24
UV transmittance ratio		7	5.57	12	9.95	36	27.37
Shading coefficient		0.35	0.3	0.43	0.35	0.61	0.51
Heat transfer coefficient	Winter	4.43	2.45	4.44	2.46	4.84	2.61
	Summer		2.68		2.69		2.85

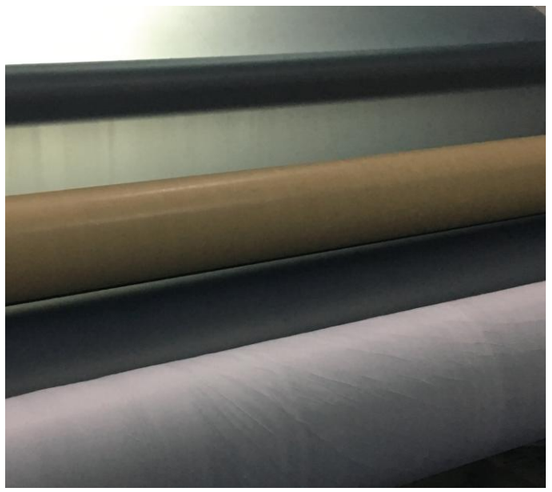
Low-R Glass
Comparison with other energy-saving glass

	Low-R	Online Low-e	Offline Low-e	Heat Reflective Coating
Simple Storage	√	√	×	√
Easy Processing	√	√	×	√
Single Piece Use	√	√	×	√
Low Reflection	√	√	×	×
High Light Transmission and High Insulation	√	×	√	×
Multi-color Selection	√	×	√	√



Low-R PVB





Low-R PVB is a new generation product of PVB with high light transmission and high heat insulation developed by our company. By adding nano-insulation materials to the original PVB, it can absorb more than 90% of the infrared heat of the sunlight and block it from outdoor, achieving a favorable heat insulation effect. Considering it does not contain metal layer, it is not easy to be oxidized, and it has higher light transmittance since it selectively transmits visible light wavelengths.

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Item	Classification	
	0.38mm	0.76mm
1、Spotted State Impurities and Bubbles		
≤0.05mm²	Allow scattered presence, no more than 10 spots per volume	
>0.05mm²	No more than 8 spots per volume	No more than 5 spots per volume
	Marked. Define 0.5 extension meters per spot. Add 1 meter per spot	
2、Geometric dimensions		
2.1 Thickness(mm)	0.38±0.02	0.76±0.02
2.2 Uniformity	Deviation of transverse thickness within 50mm distance does not exceed 15 μm	
	Deviation of transverse thickness within 50mm distance does not exceed 20 μm	
2.3 Length tolerance(m)	+（0-5）	+（0-2）
2.4 Width tolerance	+（0-15）	
3、Moisture content(%)	0.4-0.6	
4、Tensile strength(mpa)	≥20.0	
5、Rupture length(mga)	≥200	
6、Haze(%)	<0.4	

Low-R Laminated Glass

Low-R laminated glass is an energy-saving and safe to use laminated glass made by Low-RPVB that is developed by our company, which not only possesses high transparency, but also satisfying heat insulation effect.

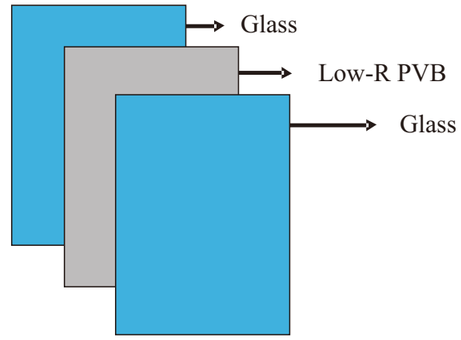
Model	Visible Light Transmission Ratio (VLT)	Visible Light Reflection Ratio (VLR)	Ultraviolet Light Transmission Ratio (UV)	Shading Coefficient (SC)
High Transmittance (HT)	70%	8%	0%	0.59
Low Transmittance (LT)	61%	8%	0%	0.54

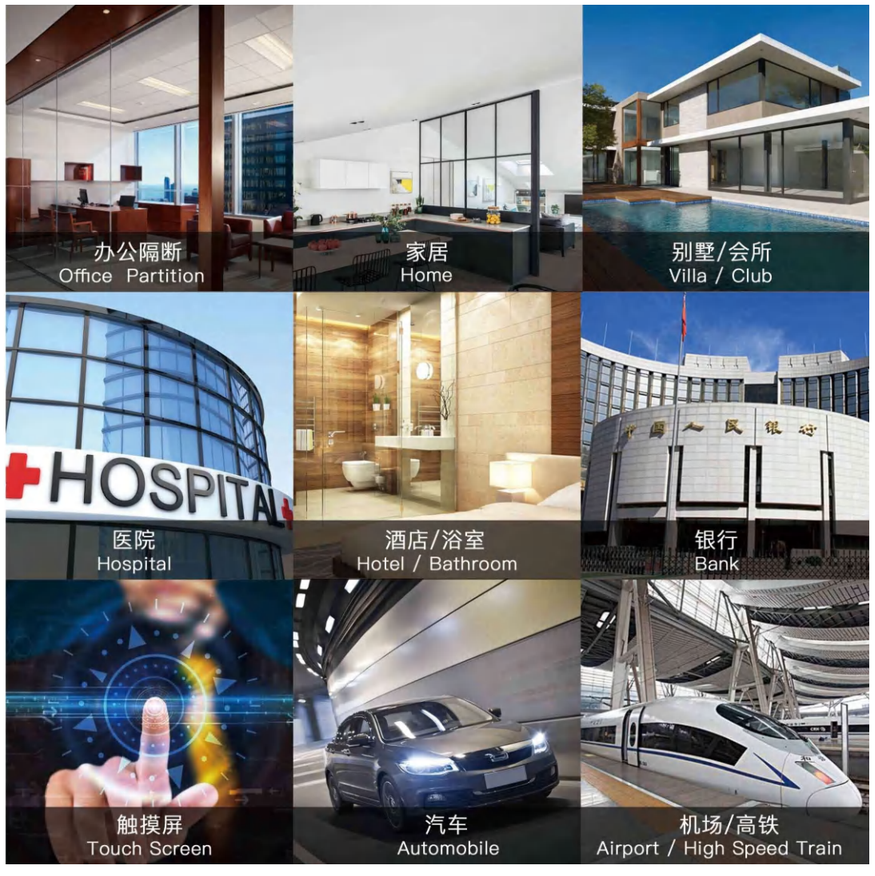
Glass structure: 5C+0.76+5C

Energy-saving glass characteristics

- Heat insulation and heat preservation, high resistance and high transmission
- Resistant to harmful UV rays, 100% UV blocking rate
- Safe and explosion-proof
- High transmittance of visible light, can meet the requirements of automobile front screen and be applied to architectural glass
- Solid sound insulation and noise prevention performance
- No interference with cell phone signals

LOW-R Laminated glass Structure





Nano-ceramic Energy-efficient Film

Our energy-saving film is formed by nano-coating ceramics with a special substrate and adhesive layer, and then dried on PET. The special function of the new nano material is to absorb and reflect more than 90% of the infrared heat from the sunlight to achieve the effect of heat insulation, and it can block the infrared heat from the air and the ground, so it has excellent energy-saving effect in cloudy days and nights. Regarding that it does not contain metal layer, it is not easy to be oxidized, and at the same time, it is selective for visible wavelengths, so it boasts of longer service life, lower reflection rate, higher light transmission rate and heat insulation rate compared with conventional heat insulation film.

Energy saving film parameters

Visible light transmittance ratio	54%
Visible light reflection ratio	8.7%
UV transmittance ratio	0.2%
Total solar transmittance ratio	44.6%
Sun shading coefficient	0.50

For details, please refer to the attached document: "Inspection Report of National Safety Glass and Quartz Glass Quality Supervision and Inspection Center WT 2015E09B00300", which has the characteristics of lower transmittance, higher transmittance and heat insulation rate.

Energy-saving film characteristics

- Heat insulation and heat preservation, high resistance and high transmission
- Resist harmful UV rays, UV blocking rate of 99% or more
- Safe and explosion-proof improve explosion-proof performance,
- Convenient construction
- No fading, no blistering, nano composite polymer film does not fall off
- No interference with cell phone signals
- Applicable in various scenarios including new building installation and old building doors and windows transformation

Project Demonstration

01. Shopping Mall & Hotel	Xingangcheng Wanda Plaza	Maoming Donghui City	Dongguan Canidun Hotel	Xiqiao Qiuguang Hotel
	Guangzhou Banghua Global Plaza Office Building	Foshan Haiyunxuan Cafe	Guangzhou Botanical Garden	Shandong Weihai Taoyuan Hotel
	Hilton Elysium Hotel	Singapore inspace Sales Hall	Emirates ERT Villa	Sheraton Xiamen Hotel
02. Corporate Office	Midea Group	Shunde Yingfeng Group	Fengming Group	Haiya Group
	Tianan Building	Guangzhou Guangle Hongding Law Firm	Guangdong Sainz Medical	Chicago Office Building, USA
	Singapore ONG Design	Singapore Hewlett-Packard Asia Pacific Headquarters Training Center	Seychelles Office Building	
03. Architecture	Foshan Zhihui Xincheng	Zhongxin Shanyu Lake	Guangzhou Science City Art Museum	Guangmei Architecture
04. Government &School	Nanhai Lishui Township Government	Guangdong Environmental Monitoring Center	Guiyang Construction Bureau	Zhuhai NO.1 Secondary Vocational School
	Singapore IEC International Kindergarten			

What else we can do

Insulating Glass

Insulating glass (IG), more commonly known as doubleglazing (or double-pane, and increasingly triple glazing/ pane), consists of two or three glass window panes separated by a vacuum or gas filled space to reduce heat transfer across a part of the building envelope.

Digital Printing Glass

The development of printing technology has opened up new opportunities for the glass industry. In the past imaging on glass was primarily achieved through drawing etching and silkscreen now it can be achieved by inkjet printer technology.
The biggest trend in glass printing is the ability to get a high-end high-quality color look. In addition although one of the great uses of glass printing is retailing goods its application in architecture

Temered Glass

Tempered or toughened glass is a type of safety glass processed by controlled thermal or chemical treatments to increase its strength compared with normal glass. Tempering puts the outer surfaces into compression and the interior into tension. Such stresses cause the glass, when broken, to crumble into small granular chunks instead of splintering into jagged shards as plate glass (a.k.a. annealed glass) does. The granular chunks are less likely to cause injury.

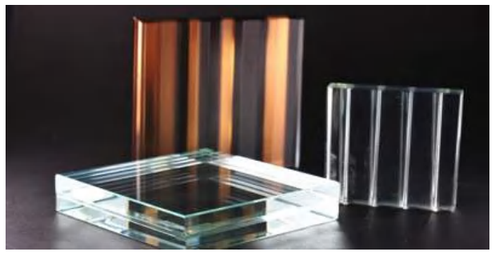
Bending Tempered Glass

Bending tempered glass is to heat the original float glass to near the softening point of the glass, and then bend the glass into the desired shape by external pressing force, and then make it by uniform and rapid

Hot Bending Glass

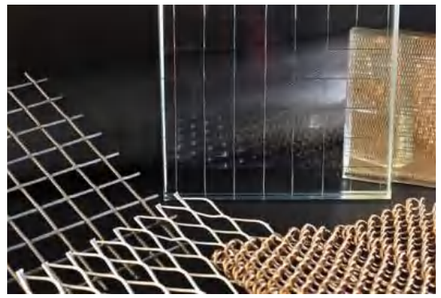
The hot bending glass heats the glass to a softening temperature, and then bends it by gravity and forms a curved glass after being naturally cooled. The hot bending glass can be made into various irregular curved surfaces according to requirements, and can be used.

Laminated Glass



Laminated glass, also known as "safety glass", "sandwich glass" or "glued glass", is a polyvinyl butyral oxime in two or more float glass. PVB or vinyl / vinyl acetate copolymer (ethylene-vinyl acetate copolymer , EVA) and other bonding materials. Early laminated glass also used liquid state of solar glue as a bonding material; in recent years, KRPARY's SGP (SentryGlas® Sentry Guard Plus Interlayer)
material has emerged in the market and has better performance than PVB. (Requires approval for production). Laminated glass is widely used in architectural glass curtain walls, glass partitions, glass railings, automotive windshields or bulletproof glass.

Wired Laminited Glass



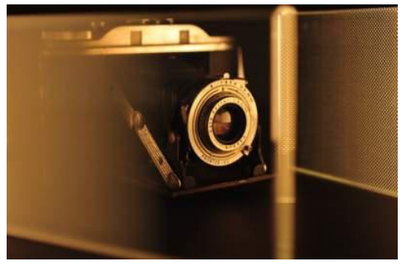
Wired Laminated Glass, safety and beauty with different materials (such as copper mesh, stainless steel, etc.) and the size of the metal mesh.

Fabric Laminated Glass

Fabric Laminated Glass, use the fabric of different materials, sizes and colors to create the effect with the laminated layer, which is safe, flexibility and beautiful.

Hot-Melt Glass

Hot-melt glass is a method in which a glass is heated to a molten state by a hot melt furnace. The heating temperature is typically 750 degrees Celsius allowing the glass to form natural or desired and various morphological and three-dimensional patterns.

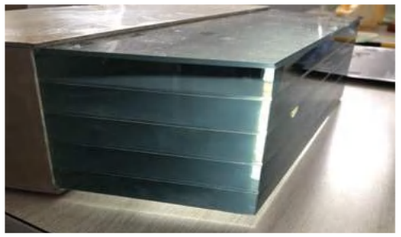


Gradient Glass

Gradient glass is the degree to which the glass is changed by printing.

Security Glass

Security glazing designed to resist actions of force by delaying access of objects and/or persons to a protected space for a short period of time.



Bulletproof Glass

Bulletproof glass (ballistic glass, transparent armor, and bullet-resistant glass) is a strong and optically transparent material that is particularly resistant to penetration by projectiles. Like any other material, it is not completely impenetrable. It is usually made from a combination of two or more types of glass, one hard and one soft. The softer layer makes the glass more elastic, so it can flex instead of shatter. The index of refraction for both of the glasses used in the bulletproof layers must be almost the same to keep the glass transparent and allow a clear, undistorted view through the glass. Bulletproof glass varies in thickness from 3⁄4 to 3 1⁄2 inches (19 to 89 mm).

LOCIOO

Job Reference

EASCO CITY PROJECT

Location:Intersection of Oil City 10th Road and Maoming Avenue, Maonan District, Maoming City, Guangdong Province, China
Scale:1680㎡



SUZHOU W HOTEL PROJECT

Location:Suzhou Center, Suzhou Industrial Park, Suzhou, Jiangsu, China
Scale:700㎡



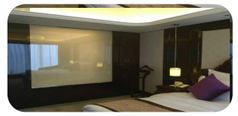
The Legislative Assembly of Macau Special Administrative Region

Location:Near the Court of Final Appeal of the Macao Peninsula Lobby Area,Macau
Scale :200㎡



CHENGDU SHIWAI HOTEL PROJECT

Location :No. 69, Kehua North Road, Wuhou District, Chengdu, Sichuan, China
Scale :650㎡

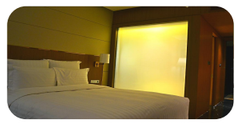
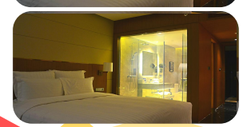

Le Meridien Shanghai Minhang HOTEL PROJECT

Location:3199 Caobao Road, Minhang District, Shanghai, China
Scale:480㎡



ZHUHAI PULLMAN HOTEL PROJECT

Location:2029 West Jiuzhou Avenue, Xiangzhou District, Zhuhai, Guangdong, China
Scale:300㎡

THE FOURTH ENGINEERING CO.,LTD OF CTCE GROUP

Location:No. 96 Wangjiang East Road, Hefei, Anhui, China
Scale:350㎡



ONE SHENZHEN BAY

Location:Northwest of the intersection of Dongbin Road and Keyuan Avenue, Nanshan District, Shenzhen, Guangdong, China
Size:300㎡
Scale:300㎡

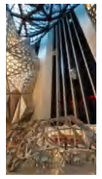


LOCIOO

Project: Metro Plaza @ Hong Kong
Completion Date: 2018

Project: Cartier Shop @ Hong Kong
Completion Date: 2018

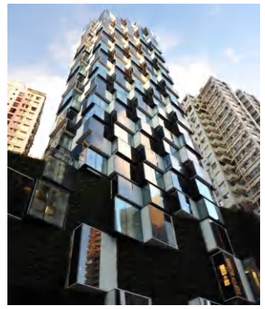

Project: MGM Hotel @ Macau
Completion Date: 2017




Project: Morpheus Hotel @ Macau
Completion Date: 2017

Project: Lv Shop @Hong Kong
Completion Date: 2016

Project: Dior Shop @Hong Kong
Completion Date: 2016



Project: Residential Building @Hong Kong
Completion Date: 2016

Project: Mercedes-Benz Showroom
@ Hong Kong
Completion Date: 2019

Project: Victoria's Secret @ China
Completion Date: 2018