## Guangzhou Huichi Glass Technical Co., Ltd





## Huichi Glass main products: Machine, EVA film, inserted decorative materials, Smart glass



Glass laminating furnace

Eva film

Decorative materials

Smart glass

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## 1 Company introduction



Guangzhou Huichi Glass technology Co., LTD, specializes in research&development, production and sales of material and equipment of glass post processing technology. The company pursuring "strives for the survival by the quality, beg the development with the prestige", and enjoy a wide good reputation with the excellent quality and favorable price of the products for years. The main products of our company are EVA film, glass vaccum heat laminated machinery, decorative laminated film etc.



Company environment

## 2 Smart glass

PDLC film is an intelligent film, a film that can be directly sticked on glass, which can adjust light under electric pressure to switch

between transparent and mist, and meet the double requirements of glass on penetrability and privacy protection;

lighting is good even when it's not transparent.

This product realizes optoelectrical functions of optical film by employing LC optics. Currently, this product has been widely applied in Europe, America and Japan. Hollywood stars, directors, industry big wheels and multinational enterprises employ optical glasses in the decoration of their luxury up scale houses and buildings

## **Application:**

- ➤ Construction: Advanced hotel, villa, office, meeting room, toilet doors and windows, shower cubicle, kitchen doors and windows, glass curtain wall, greenhouse, science residence, business building, factory, laboratory doors and windows, partition, etc
- Financial & Medical: Bank teller windows, ATM safety windows, the room windows needs transfer between privacy and transmittance.
- **Electronic:** Freezer, refrigerator, microwave oven, game player
- > Car window: Car scuttle, metro, high-speed rail
- ➤ **Industries:** Indoor design application, trade exhibition hall, command center central projection bulletin, commercial film advertisement, etc.





#### How it work-

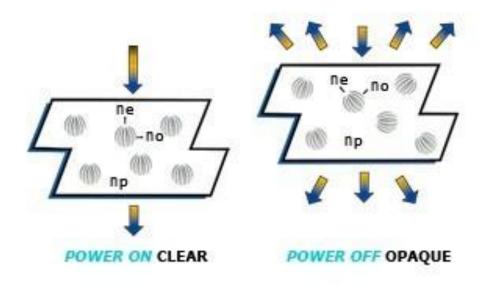
On natural condition, the arrangement of the liquid crystal inside the glass is ruleless, the refractive index of liquid crystal is lower than the polymer outside, incident light scatters on the polymer, which is milk-white, means opaque.

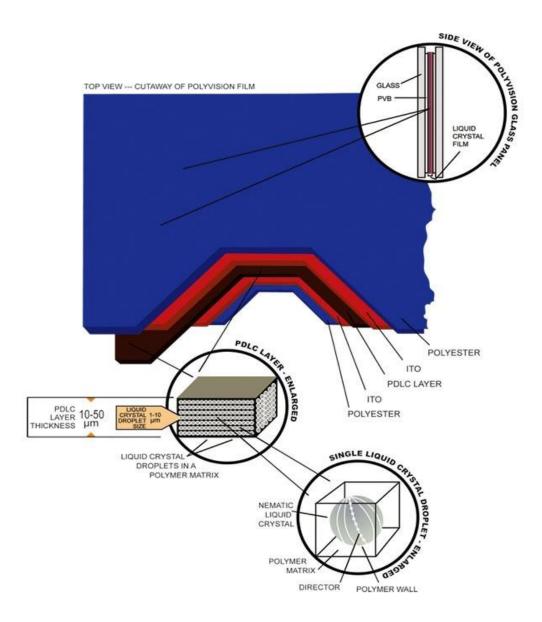
When power on, the liquid drop of the polymer with liquid crystal dispersion will rearrange, the liquid crystal will become ruleless arrangement to ordered arrangement, which makes the same refractive index of the liquid crystal and the polymer, so incident light can pass through completely to form transparent condition.

Light is scattered when passing through an optically inhomogeneous medium. PDLC (polymer dispersed liquid crystal) is a medium whose light scattering power is adjustable through applying an electric field. In their natural (uncharged) state, the PDLC droplets align randomly.

#### Picture of product theory:

## PDLC Light Scattering Mechanism (How It Works)





#### PRODUCT-FEATURE

- 1. Transparent when power on, opaque when power off; freely switching; concise and convenient.
- 2. By spinning the voltage control button, change the light intensity and Infra Red Transmission automatically according to the change temperature and lights outside the window, which can achieve the effect for fixing the temperature and light. It is of high UV resistance, environmental protection and health protection.
- 3. Double layer laminating technical, Of the high quality of safety glass, it is safe and firm, together with sound insulation, heat insulation and high noise resistance.
- 4. Various controlling ways: switch, light control, voice control, thermal control, remote control, remote network control, etc, custom made by customers'require.

Thickness	Double tempered glass thickness	3+3,5+5,6+6,8+8,10+10,12+12 (mm)
	a piece of Pdlc-interlayer thickness	1.14mm approximately

Max size	1800×3200mm	
Life time	>50,000hr (ON)	
View angle	120°	
	Standard.Pass Chinese Safety Glass Compulsory Certification(CCC).	
Qualification	Accordance with GB9962-1999 Laminated safety glass	
	ASTM D882-02&ASTM D3330-04 Laminated safety glass	

ITEMS	PARAMETER	STATUE
	80%	power on
Parallel light transmittance	5%	power off
Visible light transmittance	81%	power on
visible light transmittance	52%	power off
Haze	8%	power on
паге	90%	power off
Reaction time	10ms	power on
Reaction time	200ms	power off
Operating Voltage	60V	power on
Power Consumption	6w/m²	power on
Works temperature	-20~60°C	

#### Recommend Name:

PDLC FILM, 4~12mmPrivacy Glass, electric privacy glass for window, electronic privacy glass, Functional Glass, Privacy glass, privacy glass for partition, glass for window and door, Smart glass electric switchable glass for Door, Smart Glass office partitions, Switchable Electrochromic Glass







把调光玻璃分割成若干小块安装在黑色框架里,黑色边框修饰,使得隔断更具有装饰感。打破了 传统的上下竖条状的安装方法。



## 3 EVA Film

H&C has built a complete laboratory and complete set of machines. Through sustained tests, we keep improving the properties of EVA film and developing new properties. Following are the test machines.

汇驰EVA胶片试验检测设备 Huichi EVA Film Test Qquipment



电脑智控万能薄膜拉力机 Universal Testing Maching 测试胶片抗拉强度、剥离强度等 Testing tensile strength, peeling strength



紫外线加速老化试验机 UV Radiation Accelerating Aging Tester 测试胶片的抗老化性能 Testing Aging-resistance



**雾度测量仪**Haze Tester
测试胶片雾度
Testing Haze



可程式恒温恒湿试验机
Constant Temperature
and Humidity Test
测试胶片耐热性能、耐湿性能和耐候性能
Testing heat-resistance,humidityresistance and weather-resistance



**光学透过率测量仪 Light Transmittance Tester**测试胶片各个波长的透过率
Testing transmittance at different wavelength

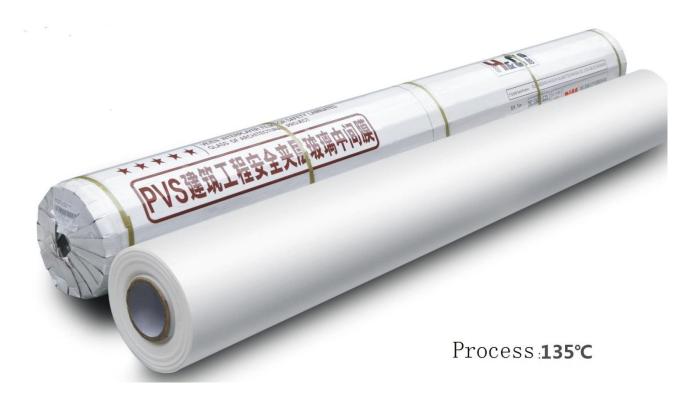


**凝胶量检验设备**Inspection gel quantity equipment
测试胶片凝胶量
Test film gel quantity

#### 3.1 PVS film

# Interlayer film for safety laminated glass for construction project Property:

- 1. Excellent transparency properties, above processing temperature 135°C can provide perfect transmittance.
- 2. Tensile breaking strength had a greatly improvement which is close to the strength of PVB, the finished products are more secure, reliable
- 3. Excellent UV impediment properties, resist 90% 99% of UV, ensuring the safety of indoor environments.
- 4. High aging-retardant, can keep adhesion well and will not turn yellow longer than 20 years in outdoor.
- 5. Nice resistance to water and humidity, suitable for cutting and grinding.
- 6. Pure white, no black spot, high yellow resistance and long-term storage.



### **Specification:**

Thiskness	PVS-H		PVS-B	
Thickness	0.4mm	0.8mm	0.38mm	0.76mm
Width*length	2.3*100m	2.3*50m	2.3*100m	2.3*50m

#### 3.2 HC-G film

# Interlayer film for safety laminated glass for construction project Property:

- Excellent Resistance, such as weather resistance, high temperature and high humidity resistance, more than 80% UV light resistance.
- 2. Excellent adhesion to glass, metal and plastics PET, PVC, fabric, paper, maintaining long term adhesion
- 3. Excellent light and transmittance and transparency, more than 90.1%
- 4. High cross-linking rate after 135 degree lamination.
- 5. High tensile strength at 18.6 MPA, suitable for outdoor.
- 6. Long service life than 20 years.







## **Specification:**

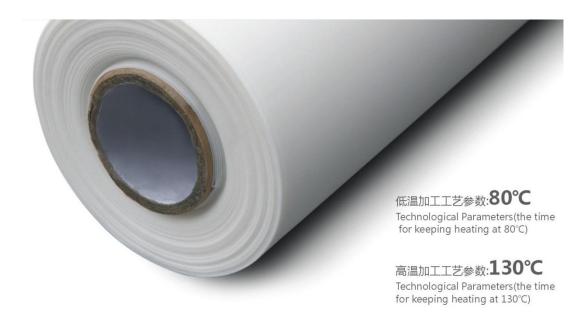
Thickness	0.25mm	0.38mm	0.5mm	0.76mm
Width*length	2.3*150m	2.3*100m	2.3*80m	2.3*50m

Special size are available by special order.

#### 3.3 HC-D film

# Low temperature-High temperature high transparent film Property:

- 1. High transparency: light transmittance >92.1%, Haze <0.3%
- 2. Wide range of adhesion: processing temperature between 80-130°C provide good adhesive strength
- 3. Excellent UV blocking, to resist 98% UV, ensuring the safety of indoor environment.
- 4. Mobility, easy to fill in concave space, ideal choice for fabric and other insertion materials.



#### **Technological parameters** (for 4mm glass to 6mm glass)

Method 1: Low temperature operation:

	Temperature	holding time
Low-temperature	60°C	20minutes
Mid-temperature	70°C	5-10minutes
High-temperature	80°C	70 minutes

**Method 2:** High temperature operation:

	Temperature	holding time
Low-temperature	60°C	20minutes
Mid-temperature	80°C	5-10minutes
High-temperature	130°C	60minutes

### **Specification:**

TD1 : 1	0.25	0.20	0.5	0.76
Thickness	0.25mm	0.38mm	0.5mm	0.76mm

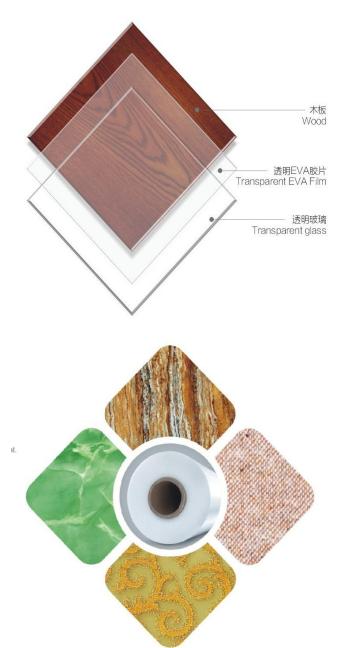
Width*length 2.25*150m	2.25*100m	2.3*80m	2.3*50m	
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#### 3.4 HC-K

#### **Ordinary Transparent EVA film**

#### **Property:**

- 1. Excellent adhesion on a variety of insertion materials.
- 2. Suitable for various insertion materials without high transparency requirement.
- 3. Competitive price, the best choice to the mass-market products.
- 4. Pure white, no black spot, high yellow resistance and long-term storage.
- 5. Nice resistance to water and humidity, suitable for cutting and grinding.



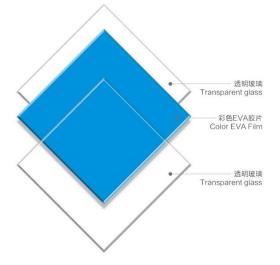
## **Specification:**

Thickness	Width*length	Special specification
0.1mm	1.68,1.85,2.00*300m	
0.15mm	1.68,1.85,2.00,2.25*200m	
0.2mm	1.68,1.85,2.00,2.25*200m	Chaoial aige and available by special ander
0.25mm	1.85,2.00,2.25*150m	Special size are available by special order
0.38mm	2.00,2.25*100m	
0.76mm	2.3*50m	

#### 3.5 Color EVA film

## **Property:**

- 1. Bright and clear colors.
- 2. High transparency and well-distributed color, show the fashion style.
- 3. Outstand adhesion attributes, and high water, heat, humidity resistance.



彩色EVA夹胶胶片目录 EVA plastic film color folder directory

品名Name	厚度 Thickness	规格 Size
HC-K4透明-柠檬黄 Transparent Lemon	0.38mm	2.0×35m/卷
HC-K5透明-桔黄 Transparent Orange	0.38mm	2.0×35m/卷
HC-K6透明-深绿 Transparent Green	0.38mm	2.0×35m/卷
HC-K8透明-草绿 Transparent grass green	0.38mm	2.0×35m/卷
HC-K10透明-粉红 Transparent Pink	0.38mm	2.0×35m/卷
HC-K11透明-大红 Transparent Red	0.38mm	2.0×35m/卷
HC-K12透明-紫色 Transparent Purple	0.38mm	2.0×35m/卷
HC-K13透明-茶色 Transparent Brown	0.38mm	2.0×35m/卷
HC-K14透明-深蓝 Transparent Blue	0.38mm	2.0×35m/卷
HC-K16透明-灰色 Transparent Gray	0.38mm	2.0×35m/卷
HC-K18透明-宝蓝 Transparent Light Blue	0.38mm	2.0×35m/卷
HC-K19透明-紫罗兰 Transparent Violet Blue	0.38mm	2.0×50m/卷
HC-K21透明-宝石蓝 Transparent Sapphire Blue	0.38mm	2.0×50m/卷
HC-K22透明-浅黄 Transparent Light yellow	0.38mm	2.0×50m/卷
HC-K23透明-黑色 Transparent Black	0.38mm	2.0×50m/卷
HC-K7磨沙白 Sanded White	0.38mm	2.0×50m/卷
HC-K40-1玉砂白 Jade White	0.38mm	2.0×50m/卷
HC-K40-2玉砂白(浅) Jade White ( light)	0.38mm	2.0×50m/卷

品名Name	厚度Thickness	规格Size
HC-K27朦胧彩-大红 Sanded Red	0.38mm	2.0×50m/卷
HC-K28朦胧彩-粉红 Sanded Pink	0.38mm	2.0×50m/卷
HC-K29朦胧彩-柠檬黄 Sanded Lemon	0.38mm	2.0×50m/卷
HC-K30朦胧彩-深绿 Sanded Green	0.38mm	2.0×50m/卷
HC-K31朦胧彩-浅绿 Sanded grass green	0.38mm	2.0×50m/卷
HC-K32朦胧彩-浅蓝 Sanded Blue	0.38mm	2.0×50m/卷
HC-K33朦胧彩-浅紫 Sanded Purple	0.38mm	2.0×50m/卷
HC-K2不透明-奶白 Opaque Milky-White	0.38mm	2.0×50m/卷
HC-K2不透明-超白 Opaque Super White	0.38mm	2.0×50m/卷
HC-K3不透明-黑色 Opaque Black	0.38mm	2.0×35m/卷
HC-K24不透明-橙红 Opaque Orange Red	0.38mm	2.0×50m/卷
HC-K25不透明-蔚蓝 Opaque Azure Blue	0.38mm	2.0×50m/卷
HC-K26不透明-果绿 Opaque Apple Green	0.38mm	2.0×50m/卷
HC-K34不透明-草绿 Opaque Grass Green	0.38mm	2.0×50m/卷
HC-K35不透明-大红 Opaque Red	0.38mm	2.0×50m/卷
HC-K36不透明-明黄 Opaque Bright Yellow	0.38mm	2.0×50m/卷
HC-K37不透明-天蓝 Opaque Sky blue	0.38mm	2.0×50m/卷
HC-K38不透明-紫色 Opaque Purple	0.38mm	2.0×50m/卷

欢迎您来样订做,我们将尽量满足您的需求。Special size are avaible by special order

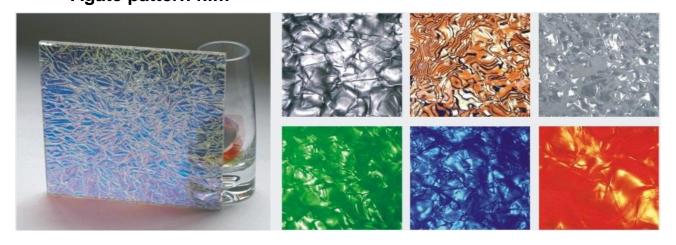
## 4 Decorative Film for laminating

### 4.1 Fabric decorative materials

We supply thousands patterns of fabric materials for glass laminated, they are colorful and fashion. Welcome to inquire.



# 4.2 Special decorative film Agate pattern film



Sparkle film



#### 4.3 Pet decorative film

PET film with colorful pattern can be used in laminating process, offer many choice for slide door, office and house decoration.





### 4.4 Special decoration paper

Graining and marble pattern is the most favorite pattern for decoration, the laminated glass made with these materials are beautiful and colorful. We can provide various pattern for your choice.





## 5 Huichi glass laminating equipment

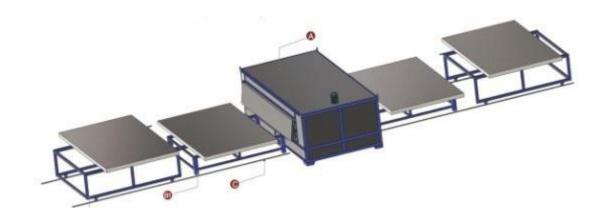
Guangzhou huichi glass technical Co., ltd. We have many experts of laminating industry specializes in researching &developing equipment of glass post processing technology. Our laminating machine is out of common. It can be jointed glass with EVA films through vaccuming and heating glass to make laminated glass. Full automatic by one step, energy-saving, advanced tech, it is the best choice in the glass industry.



## Product characteristic by using our machine

- 1. High transparent and quality laminated glass
- 2. Solve EVA gummosis problem and maintain the thickness of EVA film.
- 3. Even color distribution of the colored glass, bright and colorful.
- 4. Finished glass won't self-explosion or cracking, especially for producing the laminating glass thickness below 3mm. This is the unique laminating machine can achieve it in China.
- 5. Outdoor of laminated products in the installation is safe to use without fear of acidic glue.
- 6. The device is suitable for production of safety glass, photoelectric glass, smart glass, decorative glass, laminated glass and other high-tech glass products.

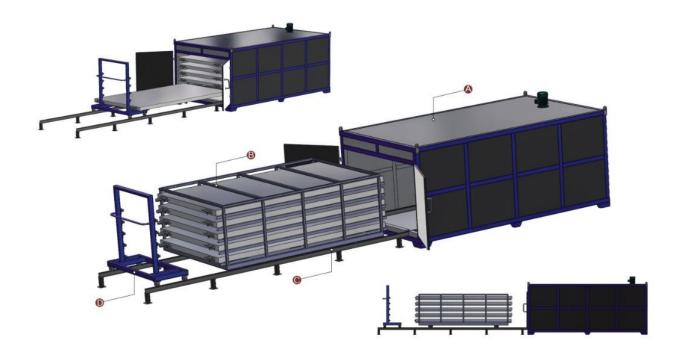
## 5.1 HC-180-3A Glass laminating two layers (Door open at both sides)



Glass size	Outer dimension	Installation power	Heating power	Other power	Current
1.85*3m	2.2*4.0*1.3m	27KW	24KW	3KW	40A

PS: Design for custom's requirement.

## **5.2** HC-170-5 Glass laminating five layers(Door open one end)



Glass size	Outer dimension	Installation power	Heating power	Other power	Current
1.7*3m	2.2*4.0*1.6m	35KW	30KW	5KW	50A

## 6 Vacuum Bag and other accessories for laminating machine





Vacuum Bag and Other Accessories for LaminatingMachines



C型抽气管 C style silicone tube



C型抽气管接头 C style silicone tube joint



密封合扣 Sealing cam buckle



透气网布 Breathable fabric



Chris Fu

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