



KAHO

嘉颢特玻

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A Pearl of glass processing industry in China
KAHO

About Kaho

INTEGRITY HARMONY WIN-WIN

Operation philosophy of **Kaho**:
With good quality, quality, time
limit for a project.

Mission of **Kaho**: Make the
world safer, greener and more
intelligent.

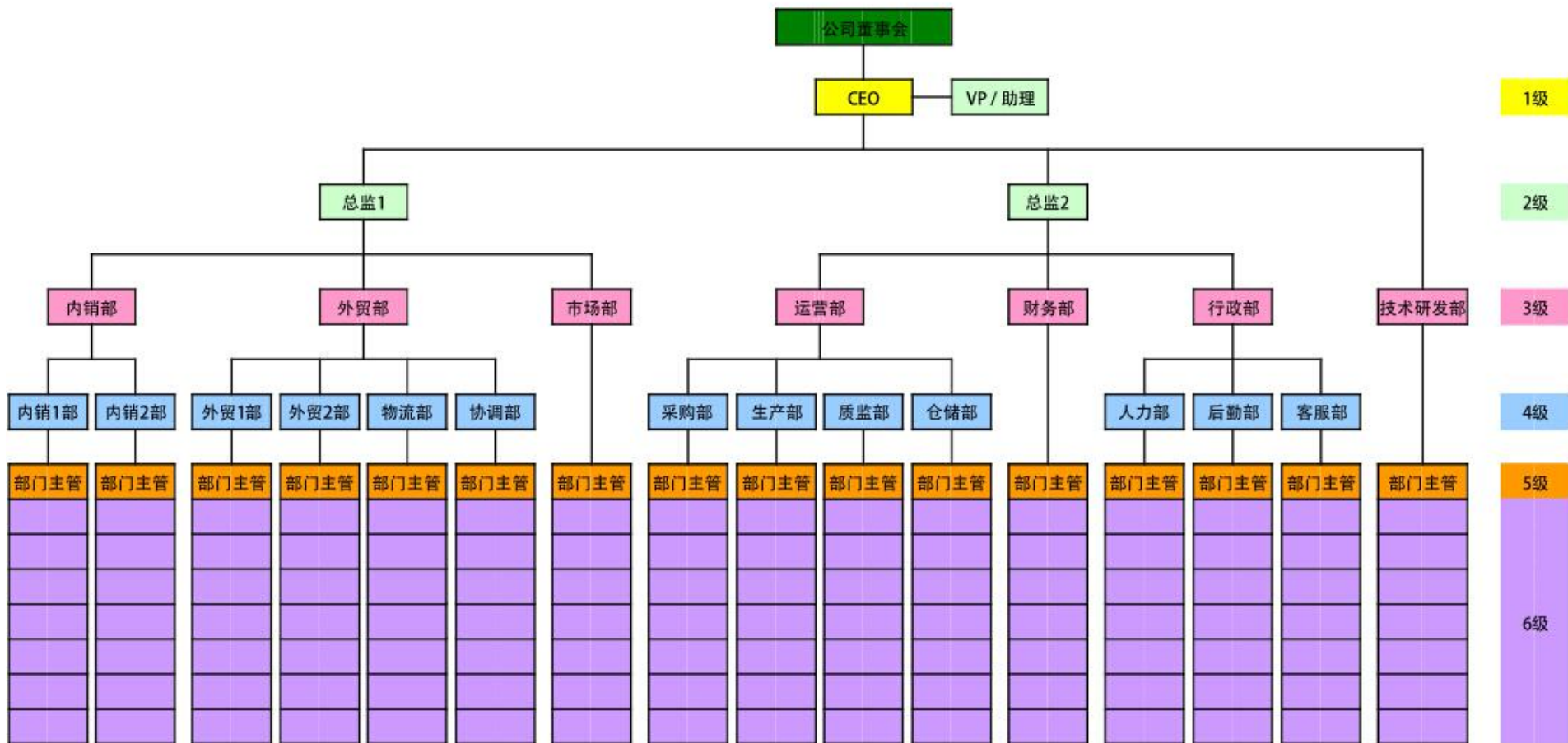


Kaho Profile

Guangzhou Kaho Special Glass Co., Ltd. is located in the southern city of Guangzhou Baiyun District, its own development, production, sales, special glass, strong power, advanced products, excellent service. The company has a large modern production workshop and a large number of advanced professional processing equipment, outstanding professional R&D team, skilled production staff and excellent sales elite team.

Company has passed ISO9001-2000 quality system certification, the products are of good quality and reliable, complete varieties is China glass special glass outstanding enterprises. Engaged in special glass, bathroom glass and electronic glass research, production and sales. Company specialising in high-strength monolithic cesium potassium flameproof glass, glass floor of high strength and high temperature resistant glass, bulletproof glass, one-way perspective, shielding glass, photochromic glass, anti-fog mirror, photovoltaic glass, electrical heating glass, ITO conductive glass, bathroom glass, appliance glass, construction glass, etc.

广州嘉颢特种玻璃有限公司组织架构图



Kaho Fact



Kaho well knows that with our consistent development, company will never get competitive. So over the pass ten years, KaHo did a lot of effort on improving service and our own facilities. The pictures show the fact of our manufacture base and the Green Energy-saving office building



Scientific Management



Continual innovation, surpass ourselves

As a manufacturer certificated by ISO9001:2000 International Quality Assurance System, KaHo uses modern management pattern, deserves high reputation with new efficient Q.C System and excellent customer service system.

Certificates of Authorization

Kaho has been persisting in seeking development through technology, Subsistence through quality and striving to provide excellent products and satisfied service to customers with advanced production management and Strict quality requirement.

Kaho has won China 3C product certification, SGS certification and ISO9001-2000 certification, Australia AS/NZS2208 certification .

Kaho is a member of China Construction Metal Structure Association.

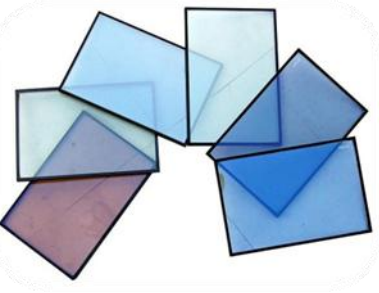


Kaho Production



Energy-saving glass

- Smart glass
 - Low-E glass
 - Heat Reflective Coating glass
 - Insulated glass
 - Self-cleaning glass
-



Safety glass

- Tempered glass
 - Heat strengthened glass
 - Bended and tempered glass
 - Heat soaked glass
 - Laminated glass
 - Bullet resistant glass
 - Fire-rated glass
-



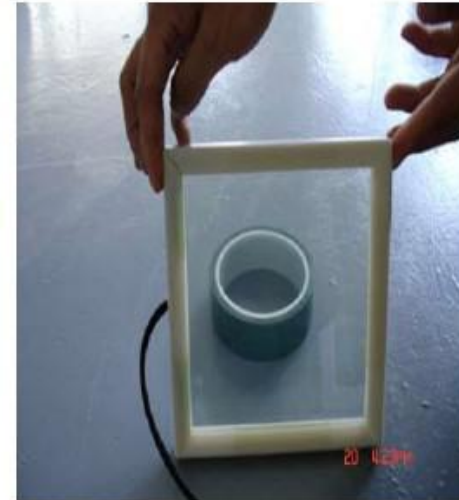
Art glass

- Digital ceramic printing
- Craft crystal
- 3D engraving glass



Smart glass

Smart glass, also known as intelligent dimming glass or privacy glass, can be converted between transparent and opaque by adjusting the voltage. Power on: clear glass, high transparency; power off: milky color, opaque, which achieves the double requirements of day lighting and privacy. Meanwhile, smart glass adopts laminated glass technology, which makes smart glass have all kinds of performances of laminated glass as well.



厚度 Thickness	正常尺寸 Size	超宽尺寸 Over-large size
4+4	1200*2400	1800
5+5	1200*3660	1800*3660
6+6	1200*3660	1800*3660
8+8	1200*3660	1800*3660
10+10	1200*3660	1800*3660

Digital Ceramic Printing glass

Today, the usage of glass in the large building is very common glass to create a sense of openness and other building materials is difficult to match.

In the past, glass print patterns are generally labor-intensive mesh screen printing process, not only the cost is high and difficult to colorful patterns printed on the glass or to create separate print window glass, and with a large decorative glass facade building is incredible.

Now, the introduction of KaHo is the most advanced digital printing equipment and technology, can be designed on the computer can accurately represent the glass, the only limit is human imagination had, so that the printing glass can make an ordinary building into a work of art.

Digital ceramic printing

- *Do not need the screen panel
- *Direct on the glass
- *Customize projects
- *Colorful

Ceramic Inks

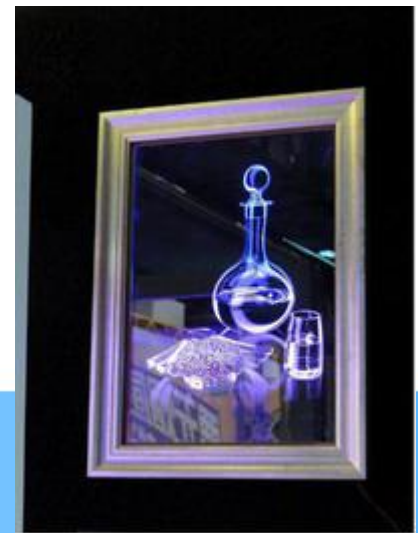
- *UV Resistant
- *Acid Resistant
- *Humid Resistant
- *Scratch Resistant



3D laser engraving glass

The product is professional engraving who use the most advanced technology to produce crystal laser engraving, without damage to the glass surface by laser engraving, engraving is certain wavelengths of laser light into the interior of glass or crystal, make it inside the occurrence of specific parts of the subtle form bubbles burst, which outlines the shape of a process to advance.

Carving glass, also known as laser engraving, crystal engraving, high-energy laser through the pattern or text, LOGO engraved in the glass inside, with glass perfect combination. After the product plus lights with crystal clear and bright, it is a set of high-end fashion and beauty products..



Anti slip glass

Non slip glass Anti-skid glass stair ,Anti-slip tempered glass ,Anti-slip tempered glass floors , Anti-skid glass floor, Anti slip glass floor, Non slip glass floor, Skid-resistant glass floor.

Anti slip



Transparency



Safety



Non-slip layer does not fall off

产品规格
Specification

最大尺寸 Maximum size	1830*2440mm
单片厚度 Single layer thickness	6mm, 8mm, 10mm, 12mm, 15mm
夹胶厚度 Laminated thickness	定制 Customized

Electric heating glass

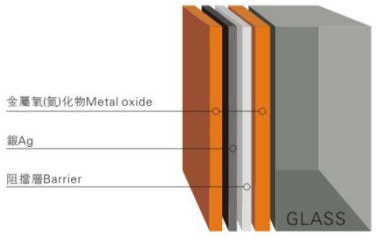
Electric heating glass normally also called electric temperature heating glass, it is a kind of laminated glass which can temperature heating after switched on. It is used PVB or special films make the two or more tempered glass struck together. Put into a very ultrathin tungsten filament, copper wire or other metal heating wire, or spread a transparent conductive film on the glass's surface, and will be in the heat after switch on.



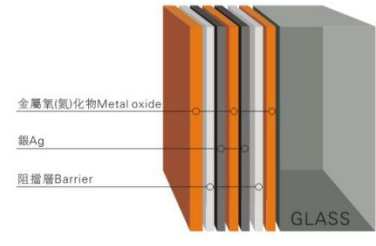
Low-E glass

Low-E glass is an online new hydrolytic multilayer coated glass, or coated with metallic oxides by magnetically sputtering under vacuum conditions.

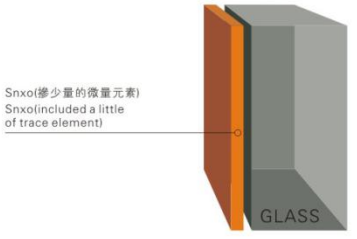
The low-emission metal film has a high transmittance for visible light and a high reflection ratio for the infrared radiations, so the LOW-E glass has good heat-insulating performance.



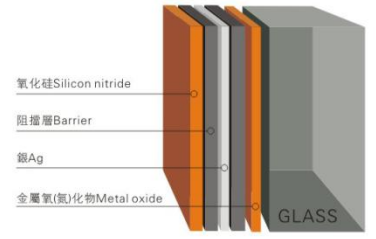
單銀LOW-E玻璃膜層結構示意圖
Single silver Low-E glass film construction schematics



雙銀LOW-E玻璃膜層結構示意圖
Double silver Low-E glass film construction schematics



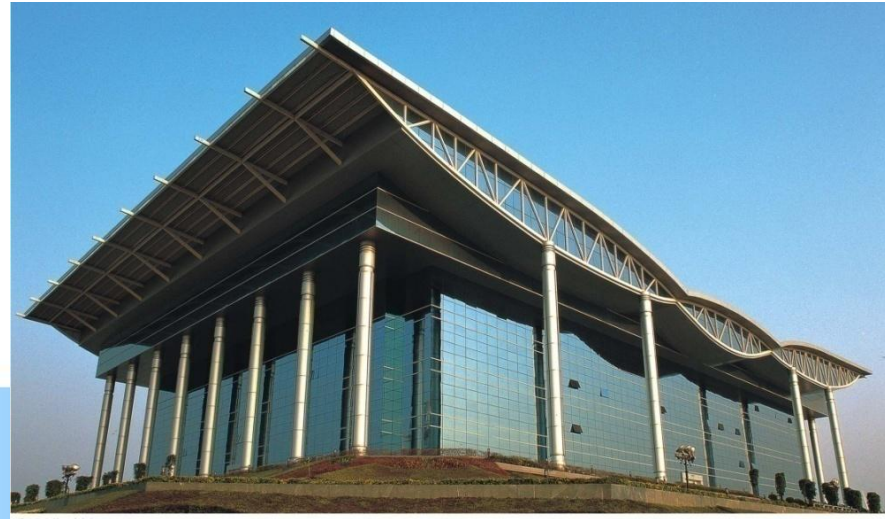
在綫LOW-E玻璃膜層結構示意圖
Pyrolytic Low-E glass film construction schematics



離綫可异地加工LOW-E玻璃膜層結構示意圖
Allopatic processable Low-E glass film construction schematics



北京央視國際大樓



揭山市榕德區政府廣場

HIG-TRANSMITTANCE LOW-E GLASS

Features: $SC \geq 0.5$ Relatively high visible light transmittance, Relatively high transmittance, Extremely high reflection ratio for far infrared radiation.

Range of application: It is most suitable for frigid regions, also suitable for cold regions. Buildings with high-transmittance exterior requirements.

SUN-SHADING LOW-E GLASS

Features: $SC \leq 0.5$ Moderate visible light transmittance, Relatively low solar energy transmittance, Extremely high reflection ratio for far infrared radiation.

Range of application: Apply to the South regions but also to the northern region, is not recommended for use in extreme cold. Applies not only requires a good decorative performance, they play a certain role in the building sheltered outdoor line of sight.

DOUBLE-SILVER LOW-E GLASS

Features: Relatively high visible light transmittance-natural lighting. Relatively low solar energy transmittance-effectively limits the transmission. Sun-shading Coefficient is lower than ordinary LOW-E glass. U-Vale is lower.

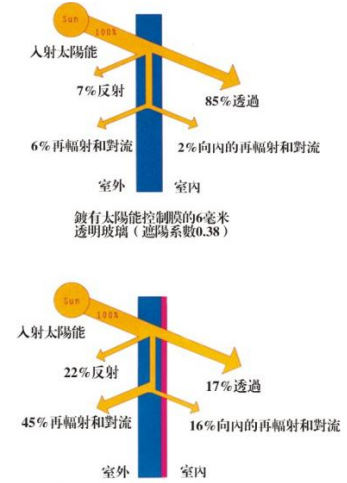
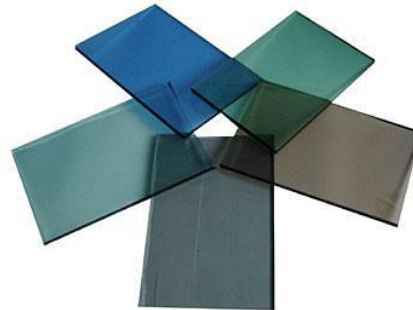
Range of application: Applicable to vast regions with various climate characteristics.



Heat reflective glass

It's also named solar control glass or sun shading glass. The film coating on glass surface can shelter against the dazzling sunshine. Different film is with different light transmission and shading factor.

The heat reflective glasses made by SBG has many series, there are colors of silver gray, blue, green, amber, gold etc. The colors are even and bright and the light parameters are corrective and stable. The light transmissions are 8-40%, and shading factors 0.23-0.56. They can be selected on customer request. If building used heat reflective coating glass, it looks colorful and beautiful. It feel comfortable indoors, and reduces lots of conditioning fee in summer.



■ 未鍍膜與在玻璃表面上鍍有太陽能控制膜層比較

LOW-E glass Performance Parameters table

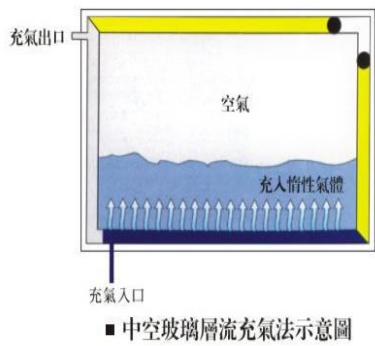
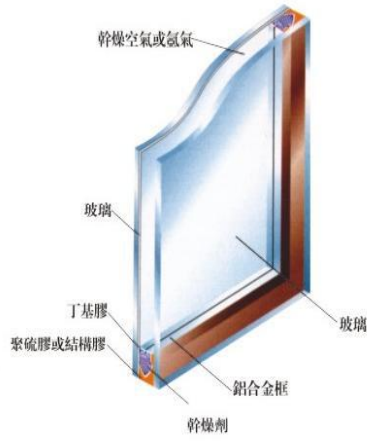
玻璃品種 Product Code	顏色 Color	傳熱系數 (K值)	遮陽系數 (SC)	可見光 透射比 (%) Visible light Transmittance (%)	可見光反射比 (%) (室外) Visible light Reflectance (%) (outdoor)	可見光反射比 (%) (室內) Visible light Reflectance (%) (indoor)	太陽光直接 透射比 (%) Sunlight direct Transmittance (%)	太陽光直接 反射比 (%) Sunlight direct Reflectance (%)	紫外綫 透射比 (%) Ultravioletray Transmittance (%)
SBGETSZ 180+12A+6白	淺灰 Light Gray	1.81	0.67	75	12	14	53	21	30
SBGETSZ 170+12A+6白	淺灰 Light Gray	1.80	0.59	65	11	14	45	19	29
SBGETSA 160+12A+6白	藍灰 Bluish Gray	1.74	0.49	53	22	13	34	26	28
SBGETSA 150+12A+6白	藍灰 Bluish Gray	1.73	0.41	48	38	22	32	40	25
SBGETSA 140+12A+6白	銀灰 Silver Gray	1.74	0.32	35	31	13	22	23	23
SBGETSA 130+12A+6白	銀灰 Silver Gray	1.71	0.27	28	38	17	18	40	17
SBGETSZ 280+12A+6白	淺綠 Light Green	1.81	0.46	62	10	14	33	9	14
SBGETSZ 270+12A+6白	淺綠 Light Green	1.80	0.41	54	10	13	28	9	13
SBGETSA 260+12A+6白	藍綠 Bluish Green	1.72	0.34	44	20	14	23	14	11
SBGETSA 250+12A+6白	藍綠 Bluish Green	1.66	0.31	39	28	22	20	17	10
SBGETSA 240+12A+6白	綠色 Green	1.72	0.25	29	29	14	15	17	7
SBGETSA 230+12A+6白	綠色 Green	1.70	0.22	24	28	16	12	17	7

Heat reflective coated glass Performance Parameters table

玻璃品種 Product Code	顏色 Color	傳熱系數 (K值)	遮陽系數 (SC)	可見光 透射比 (%) Visible light Transmittance (%)	可見光反射比 (%) (室外) Visible light Reflectance (%) (outdoor)	可見光反射比 (%) (室內) Visible light Reflectance (%) (indoor)	太陽光直接 透射比 (%) Sunlight direct Transmittance (%)	太陽光直接 反射比 (%) Sunlight direct Reflectance (%)	紫外綫 透射比 (%) Ultraviolet Transmittance (%)
SBGSTSA180	淺灰 Light Gray	5.14	0.90	80	19	20	76	15	50
SBGSTSA170	淺灰 Light Gray	5.08	0.80	69	19	18	64	14	45
SBGSTSA160	亮灰 Bright Gray	5.15	0.84	72	26	27	70	20	52
SBGSTSA150	亮灰 Bright Gray	5.13	0.68	52	24	27	52	19	39
SBGSTSA140	銀灰 Silver Gray	5.10	0.60	42	22	26	40	19	35
SBGSTSA130	銀灰 Silver Gray	5.12	0.50	32	31	34	33	25	29
SBGSTSA280	淺綠 Light Green	5.14	0.62	67	16	20	42	10	19
SBGSTSA270	淺綠 Light Green	5.14	0.57	59	18	15	37	15	17
SBGSTSA260	亮綠 Bright Green	5.14	0.60	62	20	27	40	12	20
SBGSTSA250	亮綠 Bright Green	5.13	0.51	45	18	27	29	11	15
SBGSTSA240	綠色 Green	5.13	0.46	35	20	30	23	12	12
SBGSTSA230	綠色 Green	5.11	0.41	27	23	33	18	14	10

Insulated glass

The insulated glass is a prefabricated unite made of two or more glass panes with alloy aluminum frame filled with desiccant between, which are edge sealed together with compound sealing glue(butyl, polysulfide or structural silicon sealant). This edge sealing can not only bind the individual sheets of glass together but also maintain the mechanical strength of the joint to protect the space between panes of glass from outside influence.



Processing range

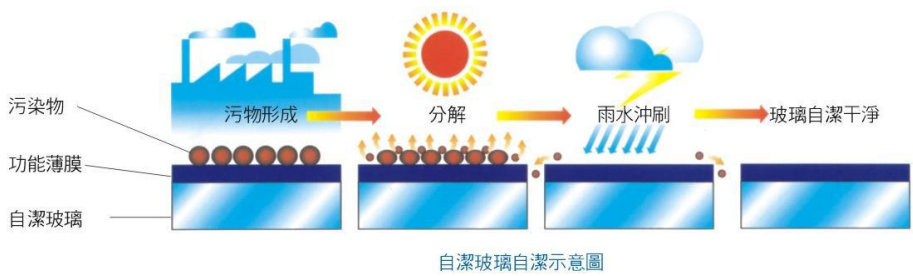
- Max size:
- Min size:
- Max thickness:
- Aluminum frame width:

Processing Standard:

National Standard:GB11944-1989

Self-cleaning glass

Self-cleaning glass is made by applying a photocatalytic nanometer on the surface of float glass. The layer can make use of ultraviolet energy in sun light and rain wash to keep the glass clean and reduce manual cleaning times considerably and decrease glass cleaning cost. The actives O_2 and $\cdot OH$ generated by the light are not only able to degrade organic compound, but also have very strong bacteria killing and restraining ability. Heat treatment such as tempering, heat bending and laminating has almost no influence on the self-cleaning fuction.



有自洁效果的玻璃

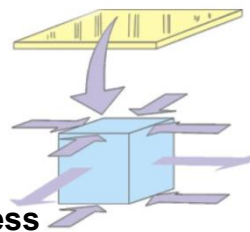


没有自洁效果的玻璃

Tempered glass

Tempered glass and heat strengthened glass are processed through heating floating glass to a very high temperature and getting it cool down quickly. In this way the intensity of glass surface can be greatly increased and can satisfy the safety need for various architectural building and house wares.

The principle of tempering & heat strengthening



Surface compression stress

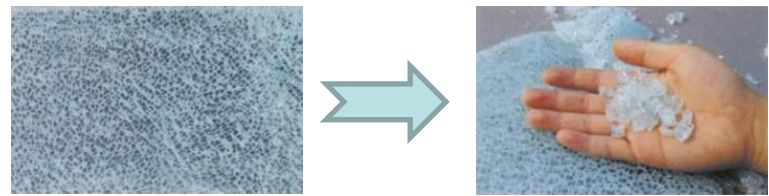
Intermediate tension stress

■ 钢化、半钢化玻璃与普通玻璃的性能比较 (安全性、强度、热稳定性、破碎状态)
The comparison between tempered glass, heat strengthened glass and ordinary glass

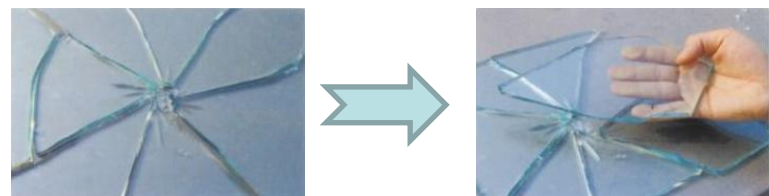
性能Feature	玻璃Glass	钢化 Tempered	半钢化 Heat strengthened	普通 Ordinary
安全性(safety)		最好(Best)	一般(General)	没有(None)
强度(Intensity)		152Mpa	100~152Mpa	30~90Mpa
热稳定性(Thermal stability)		250~320℃	100℃	20~100℃
表面应力(Surface stress)		95MPa	24-69MPa
破碎状态(Broken state)		钝角颗粒(obtuse-angle grain)	放射状破碎(shooting broken)	锐利(sharp)
自爆(Self-destruction)		会(sometimes)	基本不会(Seldom)	不会(Never)

compare

钢化玻璃



普通玻璃



Process range Processing size

MAX: 5500x2440mm
4200x3000mm
Min: 250x200mm

Thickness

4~25mm(Tempered)
4~10mm(Heat strengthened)

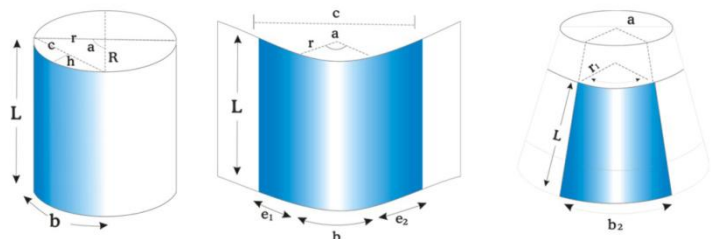
Processing Standard

CN: GB15763.2-2005
CN: GB17841-1999
UK: BS6206:1981
US: ASTM1048-97
JP: JISR3206-96

Bended tempered glass

Bended tempered glass is the bended surface safety glass processed by heating the ordinary glass to fit certain arc and radius and the cooling it down suddenly to make the surface turned bended and the facial intensity increasing greatly.

Bended tempered glass can be process into high quality compound products such as bended tempered and laminated glass, bended tempered and insulated glass, bended tempered and ceramic glass and so on, which are used widely in external decoration of skylight, sightseeing elevator, guardrail and shower room etc.



Processing Range

Max size: 5000x2400mm Min Size: 300x600mm
 Thickness: 5~25mm Radius: 5~10mm
 R>500mm
 >800mm
 12~25mm R

Processing Standard: National Standard GB15763.2-2005



Heat soaked glass

After being installed, the tempered glass will sometimes self-destroy, which is the feature of tempered glass. The reason lies on NiS, which turns into instability after heating and sudden cooling. Such instability tends to break the press balance inside the glass and causes to self-destruction. The probability of self-destruction is low, but it can't be wipe out.

Through detonation of the potential danger in glass, the self-destruction probability is greatly reduced to ensure the safety of buildings.

The heat soak test is done by heating the tempered glass to as high as 240~290°C, keeping for 3~8hours and then cooling down to room temperature

Processing range

Max size:5000x2400mm Thickness:4~25mm

Max load:2000kg

Processing Standard:GB15763.4-2009

BSEN1479-1-2005



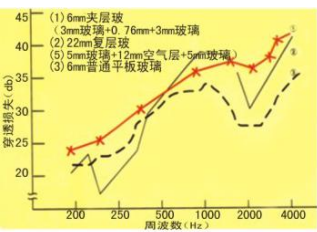
The comparison of self-destruction probability of heat soaked glass and tempered glass

Once being heat soaked, the self-destruction probability can be reduced from **1~3/1000** to **1~3/100000**.

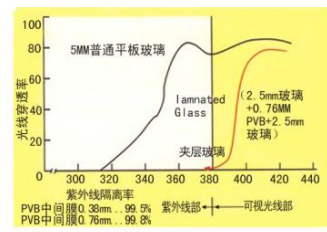
Laminated glass

Laminated glass is made by PVB film or EN film between two or more pieces of glass under given temperature and quite high pressure. Such glass has the characteristics of high mechanical strength, impact resistance, antiultraviolet, heat insulation, sound insulation and bullet resistance. When the laminated glass is broken by any impact, the film in the middle may adhere the chips, avoiding any possible injury. The crack in the radiant shape can even maintain its original shape and visibility. For this reason, laminated glass is broadly applied in places with higher requirement on safety, such as residences, high buildings, curtain walls, daylight ceilings, banks, jewelry shops, shopping malls, schools and villas. Its compound products include: tempered and laminated glass, coated and laminated glass, laminated and insulating glass, and built-in paper laminated glass.

Laminated glass performance:
Safety; Protection; Sound insulation; Sun-shading; Ultraviolet resistance; Typhoon and earthquake resistance; Water pressure resistance



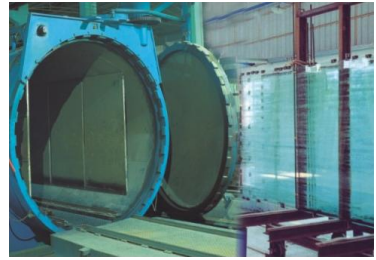
■ 各種玻璃的隔音效果



■ 隔離紫外線性能

SBG		可見光透光度	陽光透照率	透光率
性能	單片玻璃 (3MM)	90	86	1.00
	夾層玻璃			
	0.38透明PVB	89	77	0.92
	0.76透明PVB	88	75	0.90
	1.52透明PVB	88	74	0.89
	藍綠色PVB	73	68	0.84
中棕色PVB	28	34	0.56	
白色PVB	65	58	0.76	

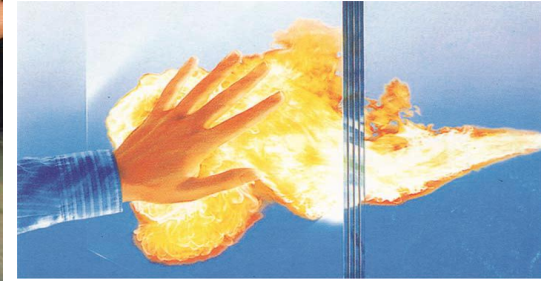
■ 各種玻璃的透光效果



Fire-rated glass

Multi-layer fire-resistant glass(FFB)
Satisfying with the requirement to fire-resistant grade, multi-layer fire-resistant glass is the special glass mainly made with two or more layers of glass or one layer with organic material.

Single-layer fire-resistant glass(DFB)
single-layer fire-resistant glass is made with single layers of glass and can meet the requirement of fire-resistant grade.



Processing range

Max size: 3600x2000mm

Min size: 100x100mm

Processing

standard:GB15763.1-2009

have BS certification (12mm)

According to the fire-resistant grade, the above-mentioned three types of glass can be sorted as Grade 1, Grade 2, Grade 3, Grade 4, where each is resistant to fire respectively no less than the following time:90 min, 60min, 45min, 30min.

one-way mirror

The product name is a one-way perspective glass, also known as the atomic mirror, one-way mirror, SLR glass, two-way mirror, anti-endoscope. Similar to an ordinary mirror, see the indoor outdoor, but indoor and outdoor can be seen from the light source side look at the past is a mirror, look past the other side of the glass.

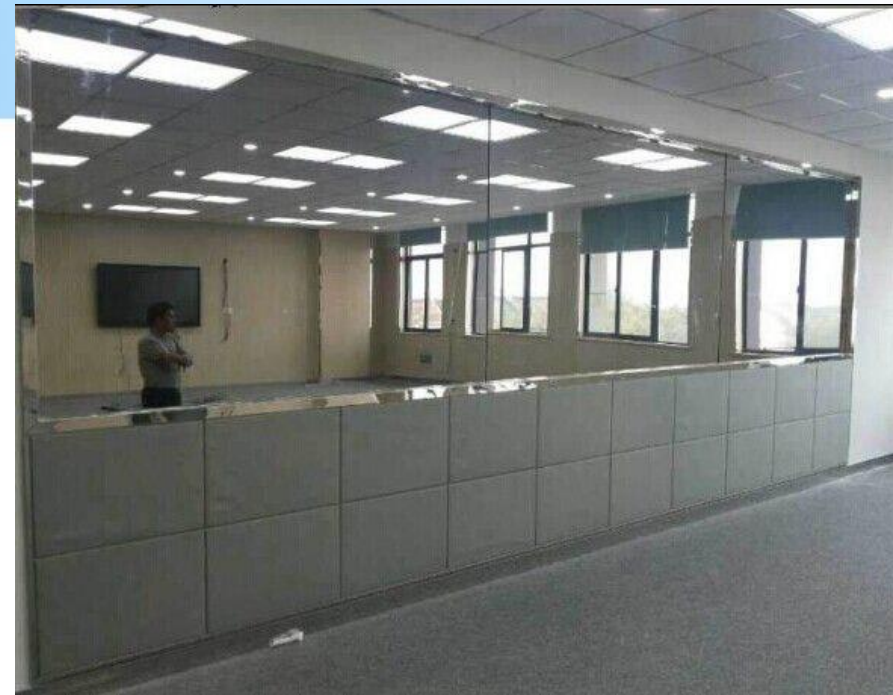
Unidirectional perspective suitable for the business environment, the hospital observation room, worker supervision, interrogation rooms and special interior design.

1. Lighting Category: Lighting the target should be uniformly illuminated on the walls and furniture. Be careful not to shine the light towards or on the glass, the Watcher should dim lighting, it is recommended to use an opaque shade.

2. Background Color: The color should be bright target, observer walls, furniture and floor colors should be soft, non-reflective and dark consistent pattern fancy minimized, while avoiding a contrasting color.

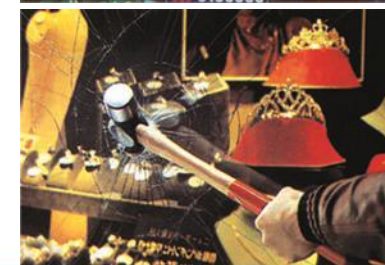
3. distance and brightness levels: Let the observed Party people maintain a certain distance, recommended 10: 1 lighting ratio.

4 sight penetration: Let the observed Party and light as possible away from some of the glass, to further reduce the implementation penetration, you can then observe a gray square Cadogan The colored glass.



Bullet resistant glass

Bullet resistant glass is the compound multi-layer glass made by combining several pieces of glass of various thickness, with solid imported high quality PVB film between them. With bullet resistance and security performance, it is mainly used in banks, post offices, safe rooms, embassies, bank notes escort or other places with bullet resistant requirement. SBG bullet resistant compound glass complies with GB165-1997 standard issued by the Ministry of Public Security of China. **bullet proof level : F64, F79, AK47 ect....**





The end
Thank you