



TAIWAN GLASS



Taiwan Glass is proudly represented
in Europe by Vistalux Limited.



2010 上海世博会主题馆

世博主题馆是亚洲最大的无柱展馆，也是世博园区永久保留和玻璃使用量最大的展馆之一。采用台玻集团 SLE、LES-B、PTSE 系列高性能 Low-E 玻璃。

2010 SHANGHAI EXPO THEME PAVILION

The theme pavilion which is one of the largest exhibition halls of Expo 2010 is the largest column-free exhibition hall in Asia. Besides, it is one of the halls that will be kept forever, too. Three kinds of TG high performance Low-E Glass (SLE, LES-B, PTSE) were put to use on this building.

S cattergram 分布图

台玻集团

创立：1964年8月25日
 创办人：林玉嘉
 董事长：林伯丰
 资本额：US\$ 820 million
 营业项目：玻璃产品制造及销售
 总部地址：台湾台北市南京东路3段261号
 员工人数：17,684人
 股东人数：43,181人

台湾工厂及产品

台中厂：浮法平板玻璃及加工玻璃
 新竹厂：压花、容器、食器、耐热厨具
 桃园厂：FRP用玻璃纤维、PCB用玻璃纤维布
 鹿港厂：PCB用玻璃纤维布、浮法平板玻璃
 彰滨厂：低辐射玻璃、加工玻璃

中国大陆公司及产品

台玻长江玻璃有限公司 CFG
 台玻昆山玻璃有限公司 TKG
 台玻成都玻璃有限公司 CDG
 台玻华南玻璃有限公司 HNG
 台玻天津玻璃有限公司 TJG
 台玻青岛玻璃有限公司 QFG
 台玻东海玻璃有限公司 DHG
 青岛压花玻璃有限公司 QRG
 台嘉玻璃纤维有限公司 TGF
 台玻太仓工程玻璃有限公司 TTAR
 台玻悦达汽车玻璃有限公司 TYAU
 实联化工江苏有限公司 SCJ
 台玻咸阳玻璃有限公司 TXY
 台玻安徽玻璃有限公司 TAH
 台玻福建光伏玻璃有限公司 FPG
 台玻武汉工程玻璃有限公司 TWAR
 台玻汉中硅砂有限公司 HZSS
 沂南硅砂有限公司 YNSS
 台玻凤阳硅砂有限公司 FYSS
 台玻漳州硅砂有限公司 ZZSS
 台嘉蚌埠玻璃纤维有限公司 TBF
 台玻悦达太阳能镜板有限公司 TYSM
 台嘉成都玻纤有限公司 TCD

产品项目

浮法平板玻璃
 压花玻璃及加工玻璃
 电子级玻璃纤维布
 光伏玻璃
 汽车玻璃
 纯碱
 超白浮法玻璃
 硅砂

国外销售公司

台玻美国销售公司 TG-USA

TAIWAN GLASS GROUP

Established: Aug. 25, 1964
 Founder: Lin, Y.C.
 Chairman: Lin, P.F.
 Capital: US\$ 820 million
 Business Scope: Glass Manufacturing and Marketing
 Headquarters: 261, Sec.3, Nanking E. Rd., Taipei, 105, Taiwan
 Employees: 17,684
 Stockholders: 43,181

FACTORIES & PRODUCTS (TAIWAN)

Taichung: Float Glass & Processing Glass
 Hsinchu: Rolled Glass, Container, Tableware, Heat-Resistant Kitchenware Glass
 Taoyuan: Glass Fiber for FRP, Glass Fabric for PCB
 Lukang: Glass Fabric for PCB, Float Glass
 Changpin: Low-E Glass Processing Glass

FACTORIES & PRODUCTS (CHINA)

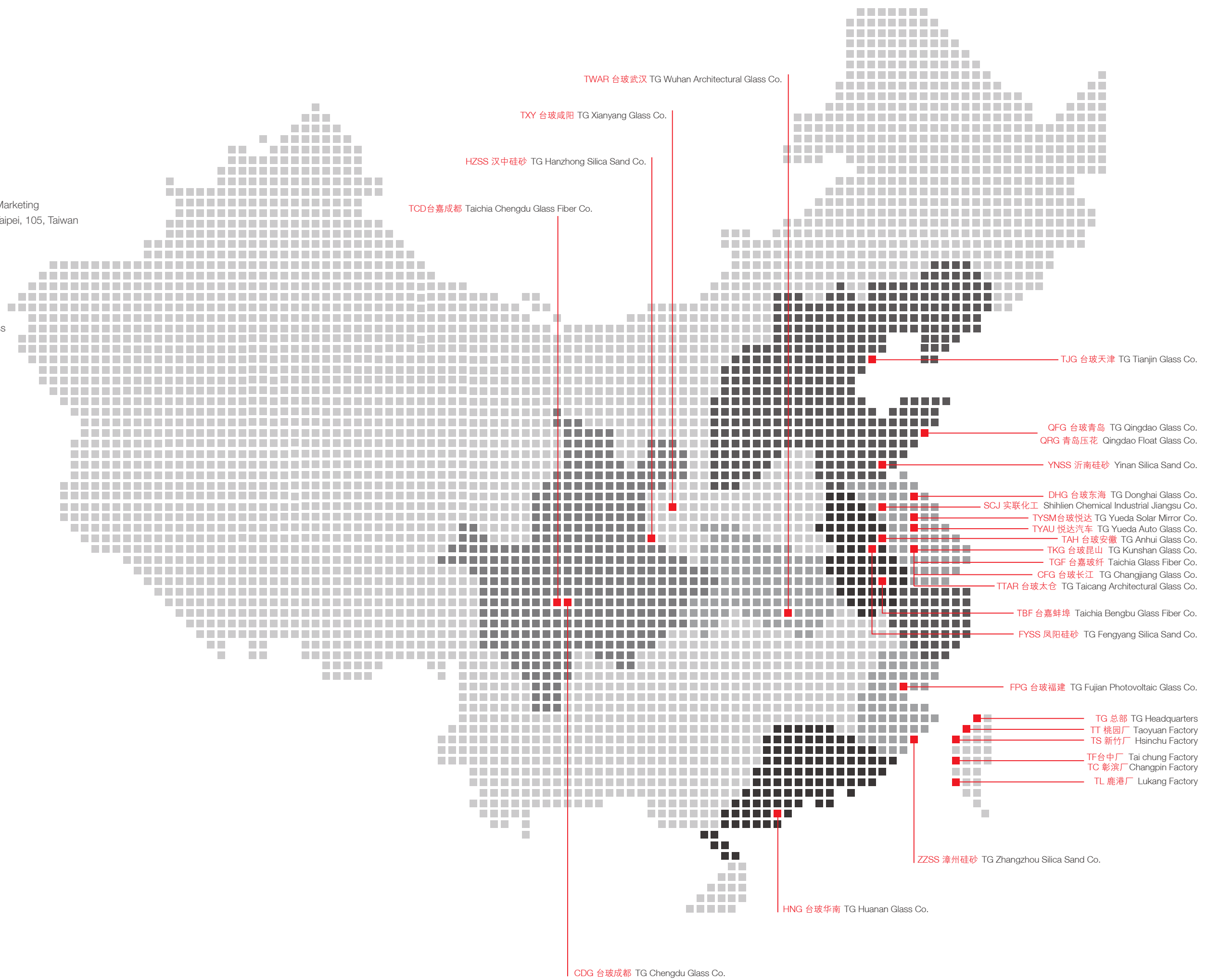
TG Changjiang Glass Co.
 TG Kunshan Glass Co.
 TG Chengdu Glass Co.
 TG Huanan Glass Co.
 TG Tianjin Glass Co.
 TG Qingdao Glass Co.
 TG Donghai Glass Co.
 Qingdao Rolled Glass Co.
 Taichia Glass Fiber Co.
 TG Taicang Architectural Glass Co.
 TG Yueda Auto Glass Co.
 Shihlien Chemical Industrial Jiangsu Co.
 TG Xianyang Glass Co.
 TG Anhui Glass Co.
 TG Fujian Photovoltaic Glass Co.
 TG Wuhan Architectural Glass Co.
 TG Hanzhong Silica Sand Co.
 Yinan Silica Sand Co.
 TG Fengyang Silica Sand Co.
 TG Zhangzhou Silica Sand Co.
 Taichia Bengbu Glass Fiber Co.
 TG Yueda Solar Mirror Co.
 Taichia Chengdu Glass Fiber Co.

PRODUCTS

Float Glass
 Rolled Glass and Processing Glass
 E Glass Fabric
 Photovoltaic Glass
 Automotive Glass
 Soda Ash
 Super Clear Float Glass
 Silica Sand

SALES COMPANY ABROAD

Taiwan Glass USA Sales Corp.



Production Base 生产基地

台玻成都玻璃有限公司 CDG TG Chengdu Glass Co.

透明浮法玻璃 Clear Float Glass
低辐射玻璃 Low-E Glass
钢化玻璃 Tempered Glass
半钢化玻璃 Heat Strengthened Glass
夹胶玻璃 Laminated Glass
中空玻璃 Insulating Glass
镜板玻璃 Mirror Glass
彩釉玻璃 Ceramic Silkscreen Glass

台玻东海玻璃有限公司 DHG TG Donghai Glass Co.

透明浮法玻璃 Clear Float Glass

台玻武汉工程玻璃有限公司 TWAR TG Wuhan Architectural Glass Co.

低辐射玻璃 Low-E Glass
钢化玻璃 Tempered Glass
中空玻璃 Insulating Glass
半钢化玻璃 Heat Strengthened Glass
夹胶玻璃 Laminated Glass
彩釉玻璃 Ceramic Silkscreen Glass
热弯玻璃 Bent Glass
弯曲钢化玻璃 Bent Tempered Glass

台玻昆山玻璃有限公司 TKG TG Kunshan Glass Co.

透明浮法玻璃 Clear Float Glass
着色浮法玻璃 Tinted Float Glass
超白浮法玻璃 Super Clear Glass

台玻华南玻璃有限公司 HNG TG Huanan Glass Co.

透明浮法玻璃 Clear Float Glass
镜板玻璃 Mirror Glass
低辐射玻璃 Low-E Glass
钢化玻璃 Tempered Glass
夹胶玻璃 Laminated Glass
彩釉玻璃 Ceramic Silkscreen Glass
中空玻璃 Insulating Glass

台玻福建光伏玻璃有限公司 FPG TG Fujian Photovoltaic Glass Co.

光伏玻璃 Photovoltaic Glass

台玻安徽玻璃有限公司 TAH TG Anhui Glass Co.

浮法玻璃 Float Glass
低辐射玻璃 Low-E Glass
钢化玻璃 Tempered Glass
夹胶玻璃 Laminated Glass
中空玻璃 Insulating Glass

台玻青岛玻璃有限公司 QFG TG Qingdao Glass Co.

透明浮法玻璃 Clear Float Glass
钢化玻璃 Tempered Glass
夹胶玻璃 Laminated Glass
镜板玻璃 Mirror Glass
低辐射玻璃 Low-E Glass

青岛压花玻璃有限公司 QRG Qingdao Rolled Glass Co.

压花玻璃 Rolled Glass
超白压花玻璃 Low Iron PV Solar Glass
压花铁丝网玻璃 Wired Rolled Glass

台玻咸阳玻璃有限公司 TXY TG Xianyang Glass Co.

浮法玻璃 Float Glass
低辐射玻璃 Low-E Glass
钢化玻璃 Tempered Glass
夹胶玻璃 Laminated Glass
中空玻璃 Insulating Glass

台玻长江玻璃有限公司 CFG TG Changjiang Glass Co.

透明浮法玻璃 Clear Float Glass
着色浮法玻璃 Tinted Float Glass
低辐射玻璃 Low-E Glass
热反射玻璃 Reflective Glass
钢化玻璃 Tempered Glass
半钢化玻璃 Heat Strengthened Glass
夹胶玻璃 Laminated Glass
漆板玻璃 Ceramic Spandrel Glass
彩釉玻璃 Ceramic Silkscreen Glass
热弯玻璃 Bent Glass
中空玻璃 Insulating Glass
镜板玻璃 Mirror Glass
超白浮法玻璃 Super Clear Float Glass
弯曲钢化玻璃 Bent Tempered Glass

台玻太仓工程玻璃有限公司 TTAR TG Taicang Architectural Glass Co.

低辐射玻璃 Low-E Glass
钢化玻璃 Tempered Glass
中空玻璃 Insulating Glass

实联化工江苏有限公司 SCJ Shihlien Chemical Industrial Jiansu Go.

纯碱 Soda Ash
氯化铵 Ammonium Chloride

台玻天津玻璃有限公司 TJG TG Tianjin Glass Co.

透明浮法玻璃 Clear Float Glass
低辐射玻璃 Low-E Glass
钢化玻璃 Tempered Glass
夹胶玻璃 Laminated Glass
中空玻璃 Insulating Glass
彩釉玻璃 Ceramic Silkscreen Glass
热反射玻璃 Reflective Glass

台嘉成都玻纤有限公司 TCD TAICHIA Chengdu Glass Fiber Co.

玻璃纤维布 Fiberglass Fabric

台嘉蚌埠玻璃纤维有限公司 TBF TAICHIA Bengbu Glass Fiber Co.

玻璃纤维布 Fiberglass Fabric

台嘉玻璃纤维有限公司 TGF TAICHIA Glass Fiber Co.

玻璃纤维布 Fiberglass Fabric

台玻悦达汽车玻璃公司 TYAU TG Yueda Auto Glass Co.

汽车玻璃 Automotive Glass

台玻悦达太阳能镜板有限公司 TYSM TG Yueda Solar Mirror Plate Co.

太阳能镜板 Solar Mirror Plate
镜板玻璃 Mirror Glass

台中厂 TF Taichung Factory

透明浮法玻璃 Clear Float Glass
超白浮法玻璃 Super Clear Float Glass
着色浮法玻璃 Tinted Float Glass
低辐射玻璃 Low-E Glass
热反射玻璃 Reflective Glass
钢化玻璃 Tempered Glass
半钢化玻璃 Heat Strengthened Glass
夹胶玻璃 Laminated Glass
漆板玻璃 Ceramic Spandrel Glass
彩釉玻璃 Ceramic Silkscreen Glass
热弯玻璃 Bent Glass
弯曲钢化玻璃 Bent Tempered Glass
中空玻璃 Insulating Glass
镜板玻璃 Mirror Glass

彰滨厂 TC Changpin Factory

低辐射玻璃 Low-E Glass
钢化玻璃 Tempered Glass
夹胶玻璃 Laminated Glass
中空玻璃 Insulating Glass
真空玻璃 Vacuum Insulated Glass

桃园厂 TT Taoyuan Factory

玻璃纤维增强丝 Fiberglass Reinforced
玻璃纤维布 Fiberglass Fabric

新竹厂 TS Hsinchu Factory

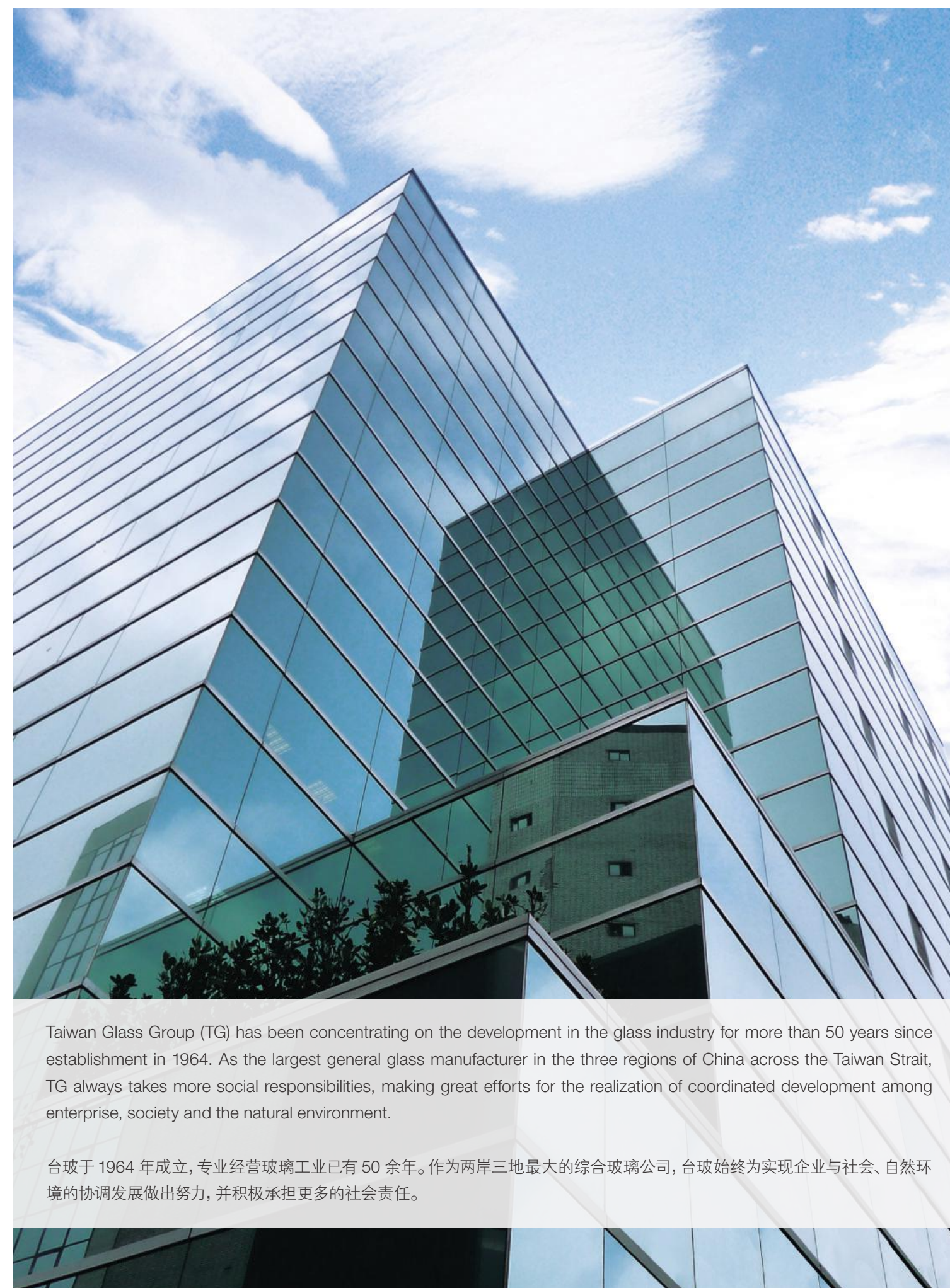
压花玻璃 Rolled Glass
容器玻璃 Glass Container
食器玻璃 Glass Tableware
厨器玻璃 Glass Kitchenware

鹿港厂 TL Lukang Factory

透明浮法玻璃 Clear Float Glass

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Taiwan Glass Group (TG) has been concentrating on the development in the glass industry for more than 50 years since establishment in 1964. As the largest general glass manufacturer in the three regions of China across the Taiwan Strait, TG always takes more social responsibilities, making great efforts for the realization of coordinated development among enterprise, society and the natural environment.

台玻于1964年成立,专业经营玻璃工业已有50余年。作为两岸三地最大的综合玻璃公司,台玻始终为实现企业与社会、自然环境的协调发展做出努力,并积极承担更多的社会责任。

Company History 公司沿革

集团各项第一

作为国内最大的玻璃生产企业,台玻集团是国内第一家大批量生产浮法玻璃(1980年)、钢化玻璃(1984年)、中空玻璃(1984年)、镀膜玻璃(1984年)及Low-E玻璃(1993年)的厂家,创始人林玉嘉先生是中国第一位也是唯一一位获得玻璃界最高奖项——凤凰奖的得主(2002年)。同时建筑玻璃和银镜的产销量均高居中国第一。

集团产品

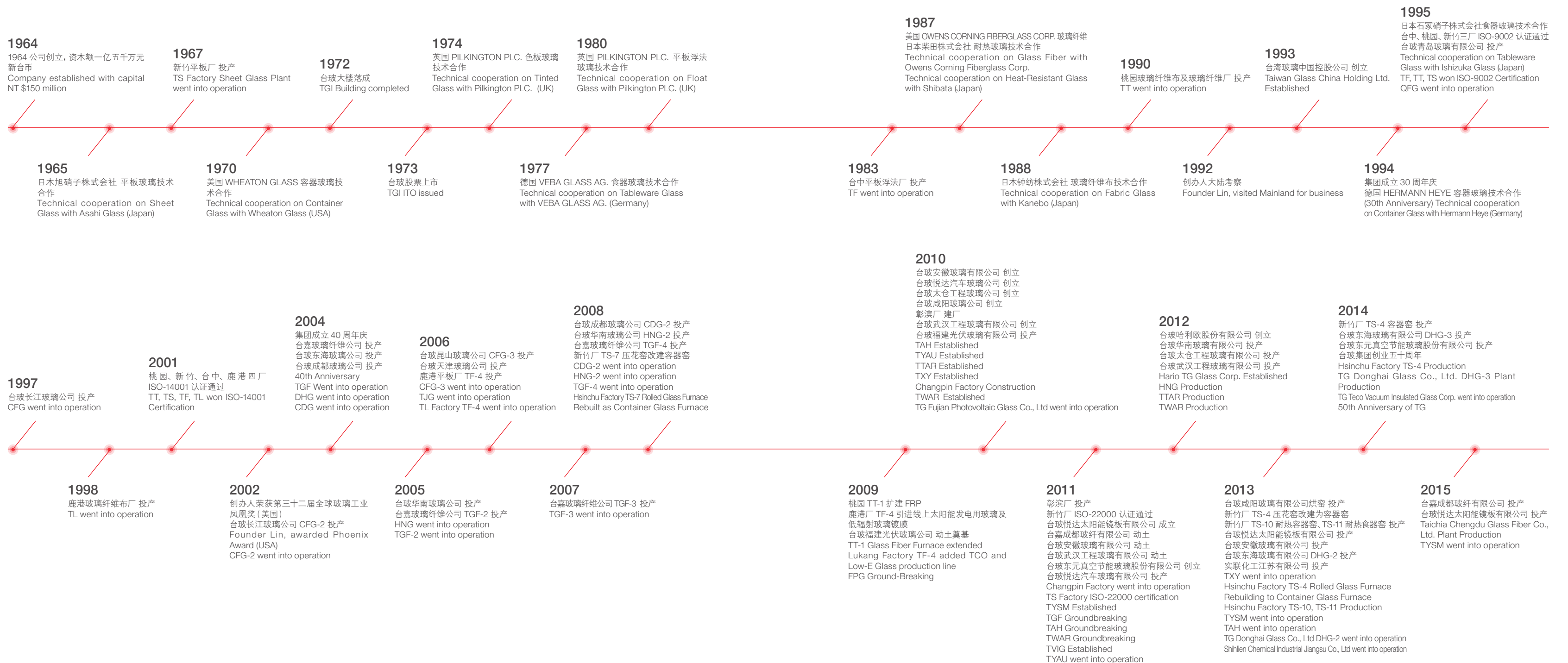
台玻集团产品覆盖浮法玻璃、汽车玻璃、光伏玻璃、纯碱、装饰玻璃、玻璃纤维、玻璃容器器皿、加工玻璃(热反射镀膜、Low-E、中空、夹胶、钢化、彩釉、银镜、真空玻璃、TPS)等领域。

HONOR

As the largest glass manufacturer in China, TG first managed to produce Float Glass (1980), Tempered Glass (1984), Insulating Glass (1984), Coating Glass (1984) and Low Emissivity Glass (1993) largely. Besides, the group founder Mr. Lin Y.C. is also the first and the only one that won the Phoenix Award throughout China. At the same time, the production and sales volume of architecture glass and silver mirror is the highest in China.

PRODUCTS

TG produces Float Glass, Automotive Glass, Photovoltaic Glass, Soda Ash, Decoration Glass, Glass Fiber, Glassware, Processing Goods like Coating Glass, Low Emissivity Glass, Insulating Glass, Laminated Glass, Tempered Glass, Ceramic Silkscreen, Mirror, Vacuum Insulated Glass, TPS, and so on.





厂别 Factory	浮法玻璃生产线 Production Facility	年产能 Annual Capacity
台湾台中厂 Taichung Factory	浮法窑炉 3 座 3 Float Glass Furnaces	420,000 MT
台湾鹿港厂 Lukang Factory	浮法窑炉 1 座 1 Float Glass Furnace	200,000 MT
江苏昆山厂 Kunshan Factory	浮法窑炉 3 座 3 Float Glass Furnaces	520,000 MT
四川成都厂 Chengdu Factory	浮法窑炉 2 座 2 Float Glass Furnaces	480,000 MT
广东华南厂 Huanan Factory	浮法窑炉 2 座 2 Float Glass Furnaces	480,000 MT
江苏东海厂 Donghai Factory	浮法窑炉 2 座 2 Float Glass Furnaces	400,000 MT
天津厂 Tianjin Factory	浮法窑炉 1 座 1 Float Glass Furnace	200,000 MT
山东青岛厂 Qingdao Factory	浮法窑炉 1 座 1 Float Glass Furnace	140,000 MT
陕西咸阳厂 Xianyang Factory	浮法窑炉 1 座 1 Float Glass Furnace	380,000 MT
安徽凤阳厂 Anhui Glass Factory	浮法窑炉 1 座 1 Float Glass Furnace	380,000 MT

工厂地址

台湾

台中厂
台中港关连工业区 435 自强路 377 号

鹿港厂
彰化县彰滨工业区鹿工路 11 号

新竹厂
新竹市香山工业区 300 中华路 4 段 470 号

桃园厂
桃园县观音工业区 328 经建五路 1 号

彰滨厂
彰化县漳滨工业区鹿工路 52 号

中国大陆

台玻长江玻璃有限公司
江苏省昆山市张浦镇台玻路 1 号

台玻昆山玻璃有限公司
江苏省昆山市张浦镇台玻路 1 号

台玻成都玻璃有限公司
四川省成都市青白江区华金大道一段 501 号

台玻华南玻璃有限公司
广东省东莞洪梅镇台盈工业区

台玻天津玻璃有限公司
天津市静海城东天宇科技园泰安路 5 号

台玻青岛玻璃有限公司
山东省青岛市黄岛区大窑红柳河路 369 号

台玻东海玻璃有限公司
江苏省连云港市东海县牛山镇湖东南路 1 号

青岛压花玻璃有限公司
山东省青岛市黄岛区大窑红柳河路 369 号

台玻咸阳玻璃有限公司
陕西省兴平市七里大街装备制造工业园内

台玻安徽玻璃有限公司
安徽省凤阳县板桥镇硅工业园内

台玻武汉工程玻璃有限公司
湖北省武汉市东西湖区长青街团结大道 188 号

台玻福建光伏玻璃有限公司
漳州市漳浦县旧镇开发区台玻工业园

台嘉玻璃纤维有限公司
江苏省昆山市张浦镇台玻路 3 号

台玻太仓工程玻璃有限公司
太仓市港口经济开发区申江路 9 号

台玻悦达汽车玻璃有限公司
江苏省盐城经济技术开发区南环东路 78 号

台玻悦达太阳能镜板有限公司
江苏省盐城经济技术开发区南环东路 88 号

台嘉成都玻纤有限公司
四川省成都市青白江区华集中发展区同心大道 1000 号

FACTORY ADDRESS

TAIWAN

Taichung Factory
377, Tzuchiang Rd., Taichung Harbor Ind. Zone. 435, Taiwan

Lukang Factory
11, Lu Gong Rd., Zhang Bin Industrial Zone, Zhang Hua County, Taiwan

Hsinchu Factory
470, Sec.4, Chuanghua Rd., Hsinchu, 300, Taiwan

Taoyuan Factory
1, Chinchien 5th Rd., Kuanyin Ind. Dis., Taoyuan, 328, Taiwan

Changpin Factory
52, Lu Gong Rd., Zhang Bin Industrial Zone, Zhang Hua

CHINA

TG Changjiang Glass Co., Ltd.
1, Taibo Rd., Zhangpu Town, Kunshan City, Jiangsu

TG Kunshan Glass Co., Ltd.
1, Taibo Rd., Zhangpu Town, Kunshan City, Jiangsu

TG Chengdu Glass Co., Ltd.
501, Sec1, Huajin Ave. Chingpaijiang Dist., Chengdu City, Sichuan

TG Huanan Glass Co., Ltd.
Taiying Industrial Park, Hongmei Town, Dongguan City, Guangdong

TG Tianjin Glass Co., Ltd.
5, Taian Rd., Tianyu Science Park, Jinghai County, Tianjin, City

TG Qingdao Glass Co.
369, Dayaohongliuhe Rd., Huangdao District, Qingdao City, Shandong

TG Donghai Glass Co., Ltd.
1, Hudong South Rd., Niushan Town, East Sea Country, Lian Yun Gang City, Jiangsu

Qingdao Rolled Glass Co., Ltd.
369, Dayaohongliuhe Rd., Huangdao District, Qingdao City, Shandong

TG Xianyang Glass Co., Ltd.
Equipment manufacturing Industrial Park, Qili Street, Xingping City, Shanxi

TG Anhui Glass Co., Ltd.
Fengyang Industrial Park, Banqiao Town, Fengyang, Anhui

TG Wuhan Architectural Glass Co., Ltd.
188, Unity Avenue, Changqing Street, Dongxihu District, Wuhan City, Hubei

TG Fujian Photovoltaic Glass Co., Ltd.
Taiwan Glass Industrial Park, Old Town Development Zone, Zhangpu County, Zhangzhou City, China

Taichia Glass Fiber Co.
3, Taibo Rd., Zhangpu Town, Kunshan City, Jiangsu

TG Taicang Architectural Glass Co.
9, Shenjiang Rd., Economic & Technological Development Zone, Taicang, Jiangsu

TG Yueda Auto Glass Co.
78, Nanhuan Rd., Economic & Technological Development Zone, Yancheng, Jiangsu

TG Yueda Solar Mirror Co.
88, Nanhuan Rd., Economic & Technological Development Zone, Yancheng, Jiangsu

Taichia Chengdu Glass Fiber Co.
1000, Tongxin Rd, Intensive Development Zone. Chengdu City, Sichuan



2010 上海世博会台湾馆

主题为“山水心灯——自然·心灵·城市”的世博台湾馆传达了台湾人民祈福许愿与净化心灵的意愿。采用台玻集团 FGR-SMC+SLE 系列高性能 Low-E 玻璃及夹胶玻璃。

2010 SHANGHAI EXPO TAIWAN PAVILION

With the theme of "Mountain, Water, Heart and Lantern—Nature, Soul, City", Taiwan Pavilion Expo 2010 showed people's aspirations of prayer and purification of mind of Taiwan. A kind of Low-E Glass named FGR-SMC+SLE and Laminated Glass only produced by TG were employed on this building.

技术

1980 年

引进英国 PILKINGTON 浮法玻璃生产设备及技术。

1984 年

引进德国 LEYBOLD 离线热反射玻璃真空离子溅镀技术。

1999 年

引进美国 APPLIED FILMS 离线热反射玻璃及双银低辐射玻璃真空离子溅镀技术。

2007 年

引进德国 VON ARDENNE 离线热反射玻璃及双银低辐射玻璃真空离子溅镀技术。

产品类别

浮法玻璃、超白浮法玻璃、低辐射玻璃、热反射玻璃、钢化玻璃、半钢化玻璃、夹胶玻璃、高性能隔音夹胶玻璃、漆板玻璃、彩釉玻璃、热弯玻璃、弯曲钢化玻璃、中空玻璃、真空玻璃、镜板玻璃、压花玻璃、超白光伏玻璃。

认证

ISO-9001、ISO-14001/SGS 认证、CNS 正字标记、IGCC、PAS-Mark、SGCC、QAS、3C、CE Mark 等品质检测认可。

行销市场

中国、台湾、日本、韩国、东南亚、北美、澳洲、中东、欧洲及南非等地区。

TECHNICAL CO-OPERATION

1980

JV with Pilkington PLC (UK) for the introduction of float glass production know-how.

1984

Off-line sputtering coating technology and equipment from Leybold AG (Germany).

1999

Off-line sputtering & Double Low-E coating technology and equipment from Applied Films (USA).

2007

Off-line sputtering & Double Low-E coating technology and equipment from Von Ardenne (Germany).

PRODUCTS

Float Glass, Super Clear Float Glass, Low-E Glass, Heat Reflective Glass, Tempered Glass, Heat Strengthened Glass, Laminated Glass, Sound Control Laminated Glass, Ceramic Spandrel Glass, Ceramic Silkscreen Glass, Bent Glass, Bent Tempered Glass, Insulating Glass, Vacuum Glass, Mirror Glass, Rolled Glass, Photovoltaic Cover Glass.

CERTIFICATION

ISO-9001, ISO-14001/SGS, CNS Mark, IGCC, PAS-Mark, SGCC, QAS, 3C, CE Mark etc.

MARKETS

China, Taiwan, Japan, Korea, South-East Asia, North America, Australia, Mid-East, Europe and South Africa, etc.

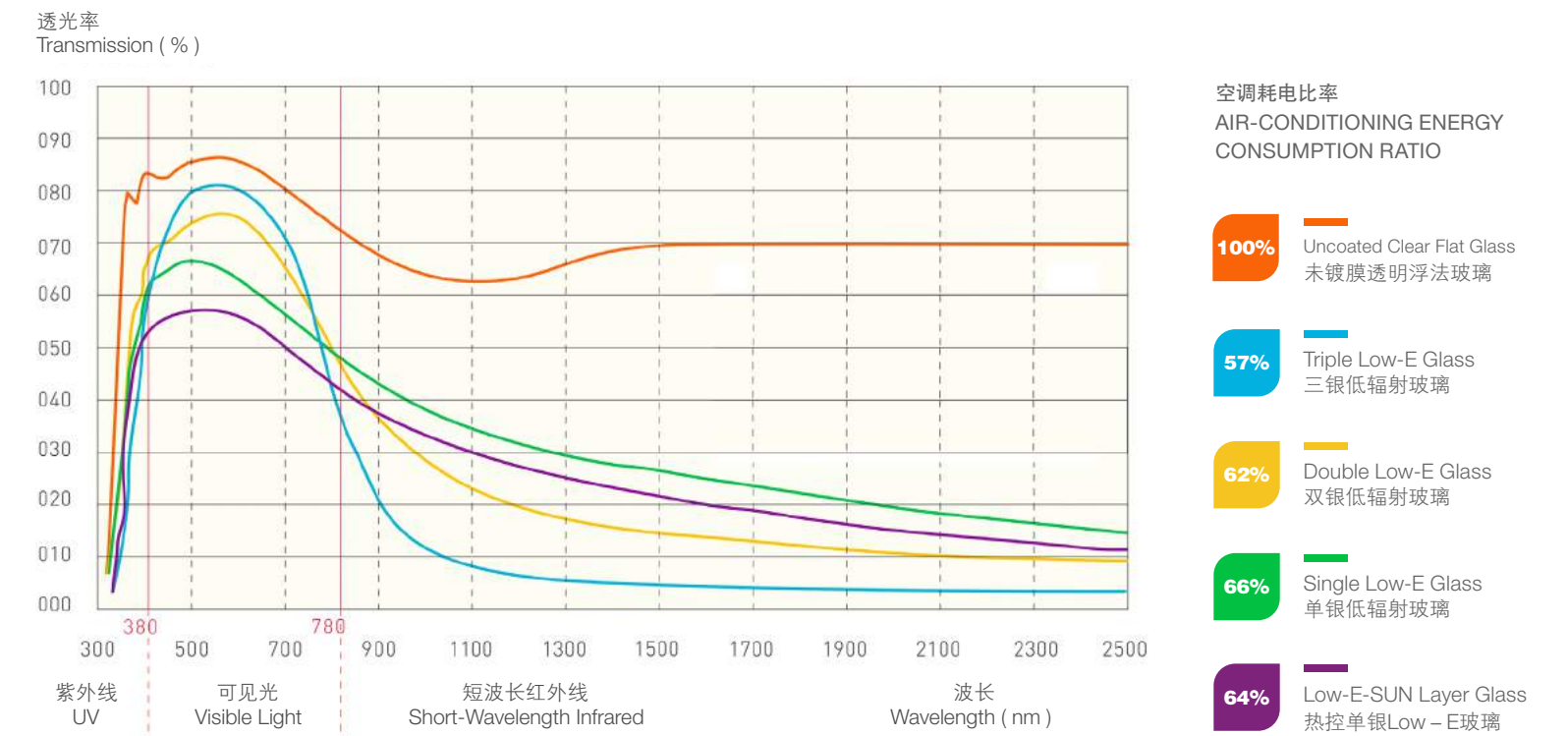
Low-E Glass 低辐射玻璃

低辐射玻璃是台湾引进美国 Applied Films 集团及德国 Von Ardenne 最先进的真空溅射镀膜设备及技术,所生产的高性能低辐射玻璃,以真空溅射方式,将玻璃表面溅镀多层不同材质镀膜,其中镀银层对红外线光具高反射功能,即高热阻绝,镀银层下的底层镀膜为二氧化锡(SnO₂) 抗反射镀膜,用以增加透光率,镀银层上镀膜为镍铬合金(NiCr)金属隔离镀膜,用以保护银镀层功能,最顶层镀膜为二氧化锡 SnO₂ 抗反射镀膜,主要功用是保护整体镀膜层,藉以达到现代建筑玻璃所注重的高透光率,低反射率,高热阻绝与环保节能及绿建筑设计的要求。

"Low-E Glass" refers to a series of high-performance, low-emissivity products manufactured by TG introducing state-of-the-art vacuum sputtering coating equipment and technology from USA's Applied Films Group and Germany's Von Ardenne. The vacuum sputtering process coats glass surfaces with several layers of different materials. Among these, a silver layer effectively reflects infrared rays while maintaining excellent thermal performance. Beneath the silver layer is an anti-reflective tin oxide (SnO₂) base layer that increases the transparency of the glass. Above the silver layer is an isolating nickel-chromium (NiCr) alloy coating. The main function of the top anti-reflective tin oxide (SnO₂) layer is to protect the other coating layers. This product offers the high transparency, low visible light reflectance, and good thermal insulating and energy-saving properties required of modern architectural glass and green building design.



图 1 不同镀膜在太阳光谱中透射率的比较
SPECTRUM FOR DIFFERENT COATING GLASS TRANSMISSION



产品种类

- 单银低辐射玻璃 (SLE)
- 双银低辐射玻璃 (TDE)
- 三银低辐射玻璃 (TTE)
- 热控单银低辐射玻璃 (LES)
- 可钢单银低辐射玻璃 (PLE)
- 可钢双银低辐射玻璃 (PDE)
- 可钢三银低辐射玻璃 (PTE)

特性

- 接近玻璃的自然原色
- 对波长 380nm 至 780nm 的可见光波段具有高透射率,不致因玻璃对可见光的高反射率而产生严重的眩光公害。
- 太阳光中可见光透入室内多,且颜色自然,采光佳,减少室内灯具的使用、节省能源。
- 对红外线光有较高的反射率(波长 780-2500nm),尤其是对长波长的红外线(波长 2500nm 以上),几乎是全反射,阻断大量热源进入,使室内保持凉爽,达到冬暖夏凉的效果。

规格

- 厚度: 3-19mm
- 最大尺寸: 130" × 236" (3300 mm × 6000 mm)
- 最小尺寸: 12" × 39" (305 mm × 991 mm)
- Low-E 中空玻璃最大尺寸: 126" × 236" (3200mm × 6000mm)

Types of Product

- Single Low-E Glass (SLE)
- Double Low-E Glass (TDE)
- Triple Low-E Glass (TTE)
- Low-E-SUN Layer Glass (LES)
- Post-temperable single Low-E Glass (PLE)
- Post-temperable double Low-E Glass (PDE)
- Post-temperable triple low-e Glass (PTE)

Benefits

- Approaches the natural color of glass.
- Highly transparent to visible light (wavelength 380nm~780nm); will not produce significant glare problems caused by high reflectance of visible light.
- Allows most sunlight in the visible range to enter without altering its natural color. Provides excellent natural illumination and saves energy by reducing the need for artificial lighting.
- Relatively high reflectance of infrared radiation (wavelength 780nm~2,500nm). In particular, reflects nearly all long-wave infrared (wavelength greater than 2,500nm). Blocks the entrance of large amounts of heat, and leaves interior comfortably cool in summer and warm in winter.

Specifications

- Thickness: 3-19mm
- Max. size: 130" × 236" (3300 mm × 6000 mm)
- Min. size: 12" × 39" (305 mm × 991 mm)
- Low-E insulating glass max. size: 126" × 236" (3200mm × 6000mm)

Low-E Glass 低辐射玻璃

图 2 低辐射中空玻璃构造图
CONSTRUCTION OF LOW-E INSULATING GLASS

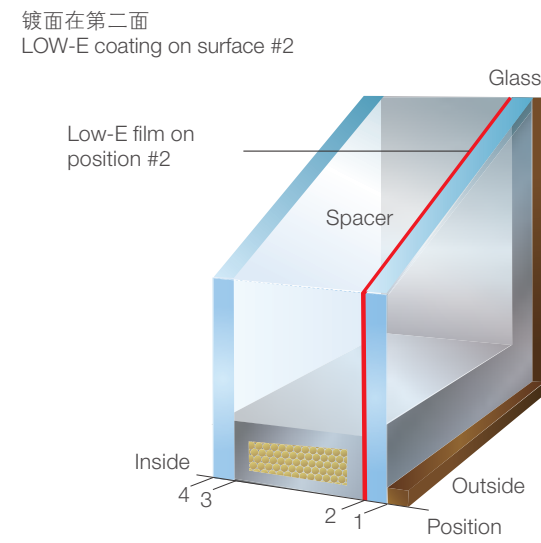
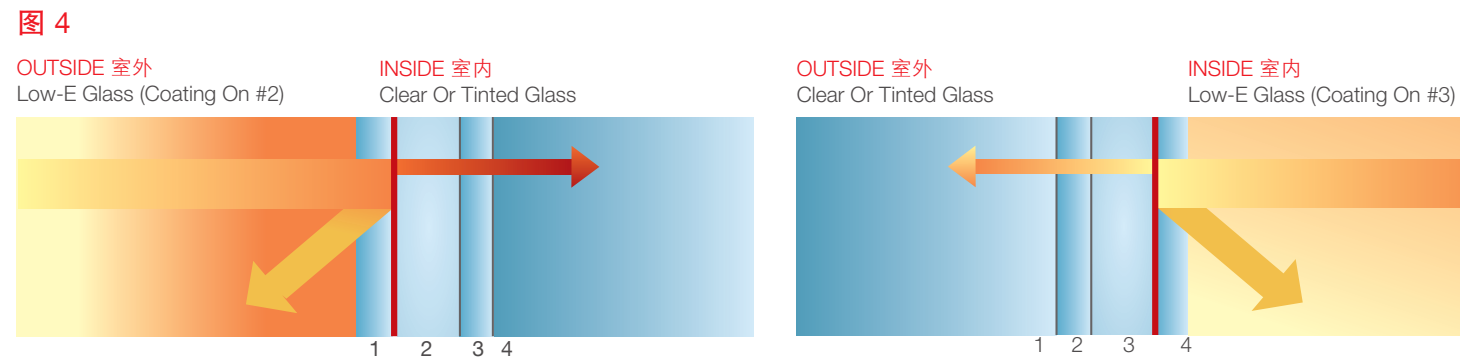
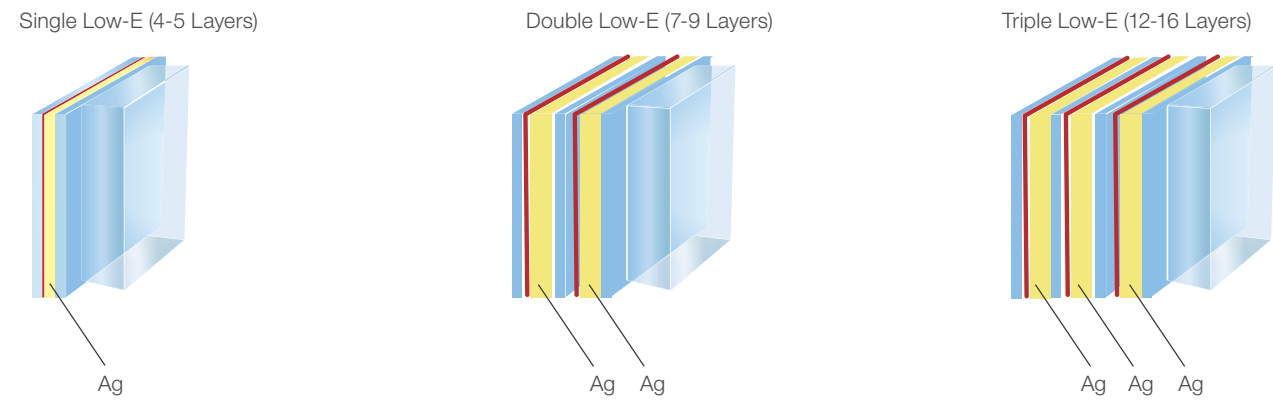


图 3 镀膜层构造
VACUUM LOW-E COATING STRUCTURES



适用(亚)热带型气候组合(镀膜在#2面)
apply (sub) tropical zone assembly (coating on surface#2)
阻断大量辐射热能的穿透, 仅少数热能进入使室内保持凉爽。

适用(寒)温带型气候组合(镀膜在#3面)
apply (frigid) temperate zone assembly (coating on surface#3)
室内的热能因 Low-E 中空玻璃的阻断而不易辐射至室外而能保暖。



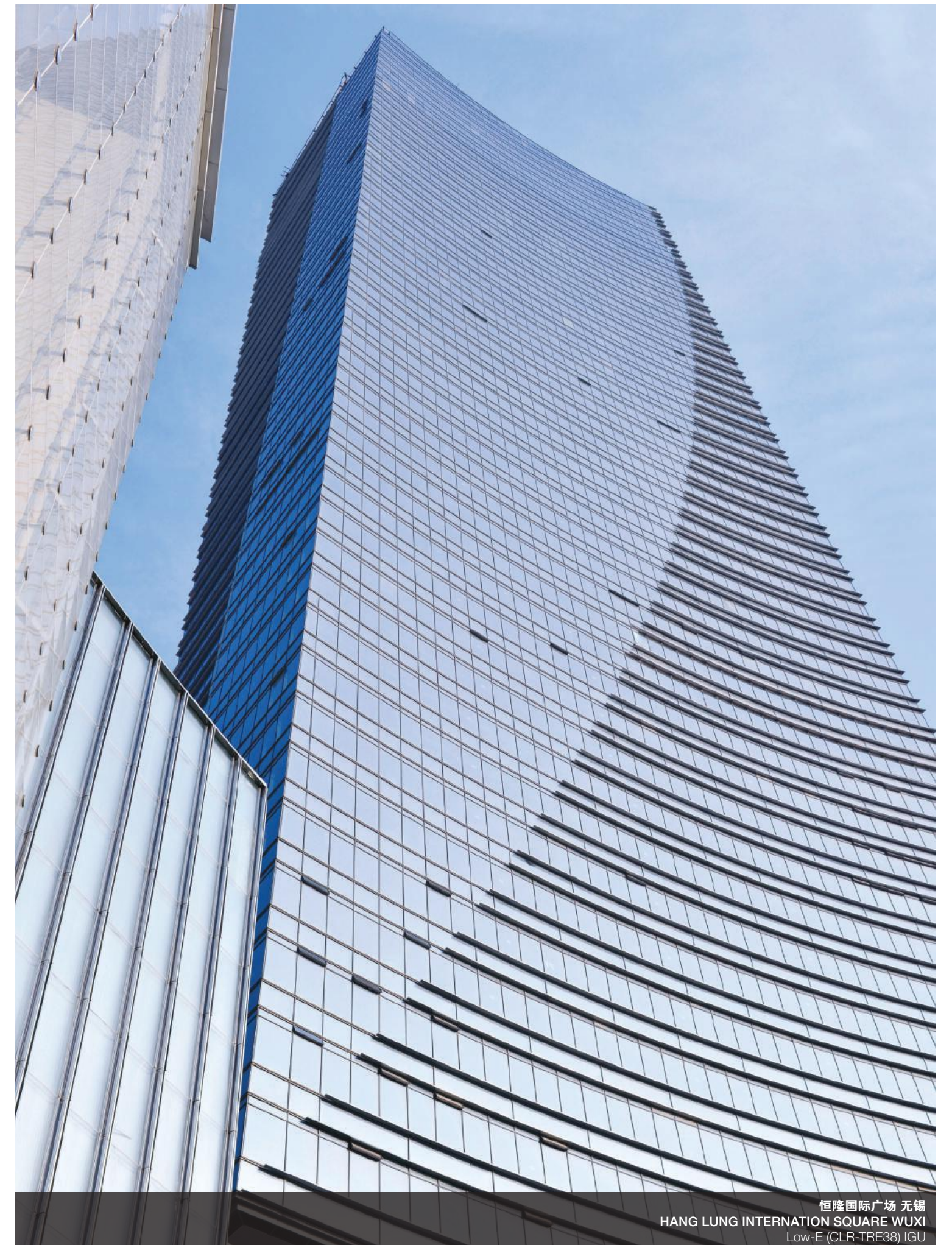
花果园 贵阳
HUAGUOYUAN GUIYANG
Low-E (CLR-TDE45D06) IGU

Low-E Glass 低辐射玻璃

单银、双银、三银 LOW-E 中空参数表

TG SINGLE DOUBLE TRIPLE SILVER LAYER LOW-E INSULATING GLASS PERFORMANCE DATA

玻璃品名 Produce Name	可见光 Visible Light (%)			太阳热能 Solar Energy				美国 NFRC			中国 JGJ151		颜色 Color	
	透过率 Trans. %	反射率 Reflect. 室外 out %	反射率 室内 in %	反射率 Refl. %	吸收率 Absor. %	直接 透过率 Trans. %	总透 过率 SHGC	总热能 透过量 Total Energy Trans	U 值冬 Winter Nighttime W/m ² .k	U 值夏 Summer Daytime W/m ² .k	遮阳 系数 Shading Coefficient	K 值 Winter-K W/m ² .k		遮阳系数 Shading Coefficient
TWAR														
IL(CLR-PLE40E-6+12A+CLR-6)	42	27	11	26	47	27	34	259	1.82	1.82	0.39	1.82	0.41	银蓝色
IL(CLR-PLE48E-6+12A+CLR-6)	45	30	13	37	37	26	32	244	1.69	1.64	0.37	1.69	0.39	银灰色
IL(CLR-PLE60B-6+12A+CLR-6)	57	19	11	24	40	35	43	322	1.76	1.75	0.49	1.80	0.52	蓝灰色
IL(CLR-PLE62C-6+12A+CLR-6)	51	22	11	25	44	31	38	288	1.76	1.75	0.44	1.75	0.47	蓝色
IL(CLR-PLE70B-6+12A+CLR-6)	58	16	11	22	41	36	44	330	1.80	1.80	0.50	1.75	0.56	浅蓝色
IL(CLR-PLE78A-6+12A+CLR-6)	63	13	12	18	40	41	49	371	1.82	1.82	0.56	1.82	0.59	浅蓝色
IL(CLR-PLE85A-6+12A+CLR-6)	75	12	13	19	31	50	58	432	1.85	1.86	0.66	1.86	0.70	中性色
IL(CLR-PDE40D-6+12A+CLR-6)	34	26	18	37	48	15	20	155	1.65	1.59	0.23	1.65	0.24	银灰色
IL(CLR-PDE42D-6+12A+CLR-6)	41	21	33	26	53	21	27	207	1.65	1.59	0.31	1.65	0.33	灰色
IL(CLR-PDE48D-6+12A+CLR-6)	36	24	31	21	60	18	24	187	1.59	1.51	0.28	1.60	0.30	银蓝色
IL(CLR-PDE50C02-6+12A+CLR-6)	48	21	21	27	50	23	29	220	1.65	1.60	0.33	1.67	0.34	蓝灰色
IL(CLR-PDE60B-6+12A+CLR-6)	58	16	20	34	38	26	31	238	1.59	1.65	0.36	1.65	0.39	蓝色
IL(CLR-PDE70B-6+12A+CLR-6)	61	15	17	35	36	28	33	252	1.65	1.59	0.38	1.65	0.42	浅蓝色
IL(CLR-PDE80A-6+12A+CLR-6)	65	10	11	28	40	32	38	290	1.69	1.64	0.44	1.69	0.48	中性色
IL(CLR-TTE60B-6+12A+CLR-6)	46	17	12	41	40	19	23	180	1.63	1.56	0.27	1.63	0.29	蓝灰色
HNG														
IL(CLR-PLE45E-6+12A+CLR-6)	38	27	11	28	48	24	31	235	1.71	1.67	0.35	1.71	0.35	银灰色
IL(CLR-PLE48E-6+12A+CLR-6)	44	29	13	28	44	28	35	265	1.69	1.65	0.40	1.70	0.40	蓝银色
IL(CLR-PLE48E03-6+12A+CLR-6)	44	29	12	29	45	26	33	249	1.73	1.70	0.37	1.75	0.40	蓝银色
IL(CLR-PLE51C-6+12A+CLR-6)	45	22	10	26	48	26	32	246	1.70	1.66	0.37	1.70	0.39	银灰色
IL(CLR-PLE52C-6+12A+CLR-6)	46	22	10	24	49	27	35	264	1.72	1.69	0.40	1.72	0.42	蓝色
IL(CLR-PLE58C03-6+12A+CLR-6)	52	21	11	24	44	32	39	299	1.71	1.68	0.45	1.64	0.45	蓝色
IL(CLR-PLE60B-6+12A+CLR-6)	53	17	10	19	47	34	42	300	1.74	1.72	0.45	1.74	0.48	蓝色
IL(CLR-PLE61B-6+12A+CLR-6)	55	15	11	17	48	35	43	324	1.78	1.76	0.46	1.78	0.48	灰蓝色
IL(CLR-PLE70A02-6+12A+CLR-6)	64	11	11	17	42	41	48	363	1.73	1.70	0.52	1.75	0.56	浅蓝色
IL(CLR-PLE82A04-6+12A+CLR-6)	72	10	13	15	38	47	56	418	1.79	1.78	0.60	1.79	0.64	中性色
IL(CLR-PDE43B-6+12A+CLR-6)	40	14	31	20	60	20	26	202	1.62	1.55	0.30	1.63	0.32	灰蓝色
IL(CLR-PDE60B02-6+12A+CLR-6)	53	16	20	29	45	26	31	239	1.63	1.57	0.36	1.64	0.39	中性色
IL(CLR-PDE61B-6+12A+CLR-6)	54	19	19	37	41	22	27	207	1.67	1.62	0.31	1.67	0.34	蓝色
IL(CLR-PDE66A-6+12A+CLR-6)	60	10	11	26	47	27	33	250	1.65	1.59	0.38	1.66	0.41	水墨灰色
IL(CLR-PDE66A03-6+12A+CLR-6)	54	10	12	26	49	25	30	232	1.62	1.56	0.35	1.63	0.40	蓝色
TXY														
IL(CLR-PLE35D02-6+12A+CLR-6)	36	27	13	33	45	22	28	213	1.68	1.64	0.32	1.69	0.34	银灰色
IL(CLR-PLE40D-6+12A+CLR-6)	43	26	10	26	46	28	34	262	1.85	1.86	0.39	1.85	0.41	银蓝灰色
IL(CLR-PLE48E-6+12A+CLR-6)	40	25	11	29	46	25	31	237	1.79	1.78	0.35	1.79	0.37	银灰色
IL(CLR-PLE57C-6+12A+CLR-6)	51	20	10	23	45	32	38	292	1.82	1.83	0.44	1.83	0.46	浅蓝色
IL(CLR-PLE60B-6+12A+CLR-6)	54	18	10	22	42	36	43	323	1.83	1.83	0.49	1.83	0.51	蓝灰色
IL(CLR-PLE70B-6+12A+CLR-6)	59	18	11	19	41	40	46	351	1.85	1.86	0.53	1.85	0.56	蓝灰色
IL(CLR-PLE78A-6+12A+CLR-6)	62	15	11	18	40	42	48	365	1.83	1.83	0.56	1.83	0.58	蓝灰色
IL(CLR-PDE48E-6+12A+CLR-6)	42	28	36	33	46	20	25	194	1.64	1.59	0.29	1.65	0.31	银灰色
IL(CLR-PDE56D-6+12A+CLR-6)	50	28	33	34	41	25	29	224	1.63	1.57	0.34	1.64	0.36	灰色
IL(CLR-PDE60B-6+12A+CLR-6)	54	25	23	29	44	28	33	250	1.67	1.62	0.38	1.68	0.41	蓝色
IL(CLR-PDE68A-6+12A+CLR-6)	61	15	17	21	44	35	41	308	1.70	1.66	0.47	1.71	0.50	蓝灰色
IL(CLR-PDE72A-6+12A+CLR-6)	63	9	11	24	46	31	36	275	1.68	1.63	0.42	1.68	0.45	灰色
IL(CLR-PTE55B-6+12A+CLR-6)	48	12	19	42	39	19	23	179	1.63	1.57	0.26	1.64	0.29	灰色
IL(CLR-PTE70A-6+12A+CLR-6)	62	10	13	35	40	25	29	223	1.62	1.55	0.34	1.63	0.37	浅蓝灰色



恒隆国际广场 无锡
HANG LUNG INTERNATIONAL SQUARE WUXI
Low-E (CLR-TRE38) IGU

Low-E Glass 低辐射玻璃



国际会议中心 宁夏
INTERNATIONAL CONFERENCE CENTER NINGXIA
Low-E(CLR-TDE71A)IGU

设计及施工的注意事项

- 因 Low-E 金属镀膜接触大气易引起不良反应而必须于极短时间内密封或加工为中空玻璃，不建议单片使用。
- Low-E 玻璃的辐射率为 0.02-0.15，一般未镀膜玻璃辐射率为 0.84。
- 亚热带、热带区域镀膜面安装于 #2 面可隔热（由建筑物外侧往内数）；寒带区域使用镀膜面安装于 #3 面可保温（由建筑物外侧往内数），如 18 页图 4。
- 金属框的设计排水性要良好，避免因积水而导致玻璃变质起雾。
- 设计 Low-E 镀膜作夹胶玻璃时，其 U 值（热传导率）较大，热绝缘效果差。
- 要辨明 Low-E 镀膜面，除了本公司在 Low-E 玻璃上会有标记外，检验 Low-E 玻璃，可用打火机测出镀膜位置，一般玻璃表面层反射的火焰呈黄色，而 Low-E 玻璃镀膜的表面反射的火焰呈粉红色或蓝色，由此可简易找出镀膜的位置，避免造成错误的安装，而影响隔热效果。

使用及维护的注意事项

- Low-E 中空玻璃表面勿贴隔热纸，避免热裂现象发生。
- 在海拔 1000 公尺以上高地使用时，因内部压力有调整的必要性，事前请洽本公司做个案讨论。

Notes on Design and Glazing

- You'd better not use Low-E glass as a single glazing and must be sealed or processed into insulating glass unit within a very short time as the metallic oxide coating is prone to undesirable reactions once exposed to air.
- The emissivity of Low-E glass is 0.02-0.15, while that of ordinary uncoated glass is 0.84.
- In tropical or subtropical areas, the Low-E coating should be positioned on #2 surface for heat insulation (facing inward from outside the building), while positioned on #3 surface for keeping interior warm in temperate areas; as shown in Page 18.Fig.4.
- To avoid deterioration and fogging of the glass due to water accumulation, the metal holding frames must be well drained.
- Low-E glass designed for laminated glass unit will be under a greater U-value and poorer thermal insulating capability.
- To identify the coating surface of Low-E glass, aside from looking for the TG mark, use a cigarette lighter to inspect the surface of the glass. Reflection of the flame on ordinary glass surface will be yellow, while pink or blue on Low-E glass surface.

Maintenance Guidelines

- To avoid thermal fracture, do not attach insulating paper to the surface of Low-E insulating glass.
- Because of the necessity of adjusting the interior pressure when using this product at an altitude of 1,000 meters or more, please contact us to discuss the specific details of your project.



绿地中心 武汉
GREENLAND CENTRE WUHAN
Low-E (SCL-PL56C06) IGU

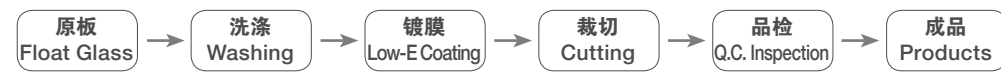
Low-E Glass 低辐射玻璃



台玻建筑用镀膜玻璃加工流程 TG COATING GLASS PROCESSING FLOW

加工流程 Processing Flow (Off-Line Coating 离线镀膜)

离线热反射玻璃 Off-line Reflective



离线热反射夹胶安全玻璃 Off-line Reflective Laminated Safety Glass



低辐射中空玻璃 Low-E Insulating Glass



低辐射钢化中空玻璃 Tempered Low-E Insulating Glass

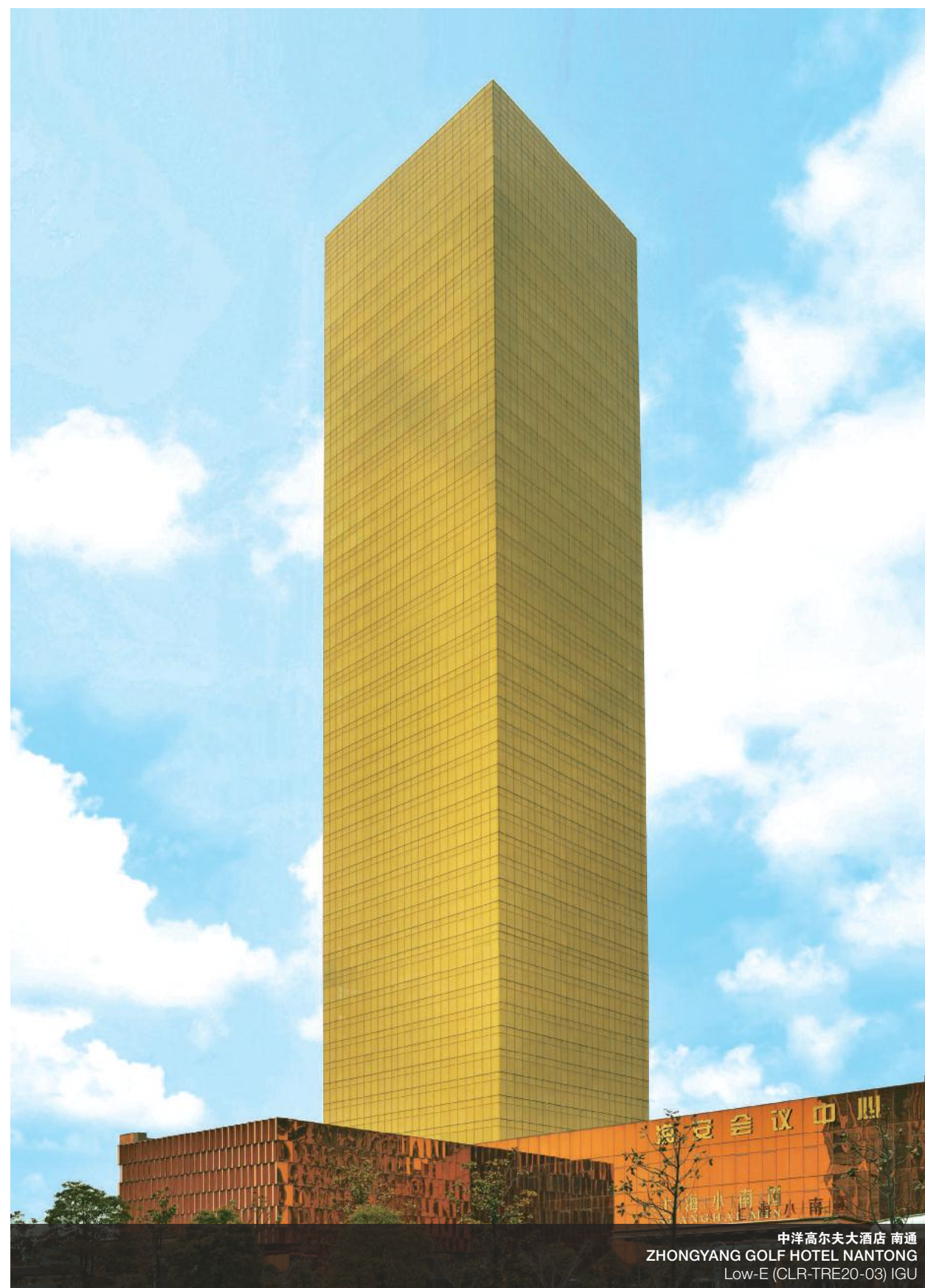


Low-E Glass
低辐射玻璃

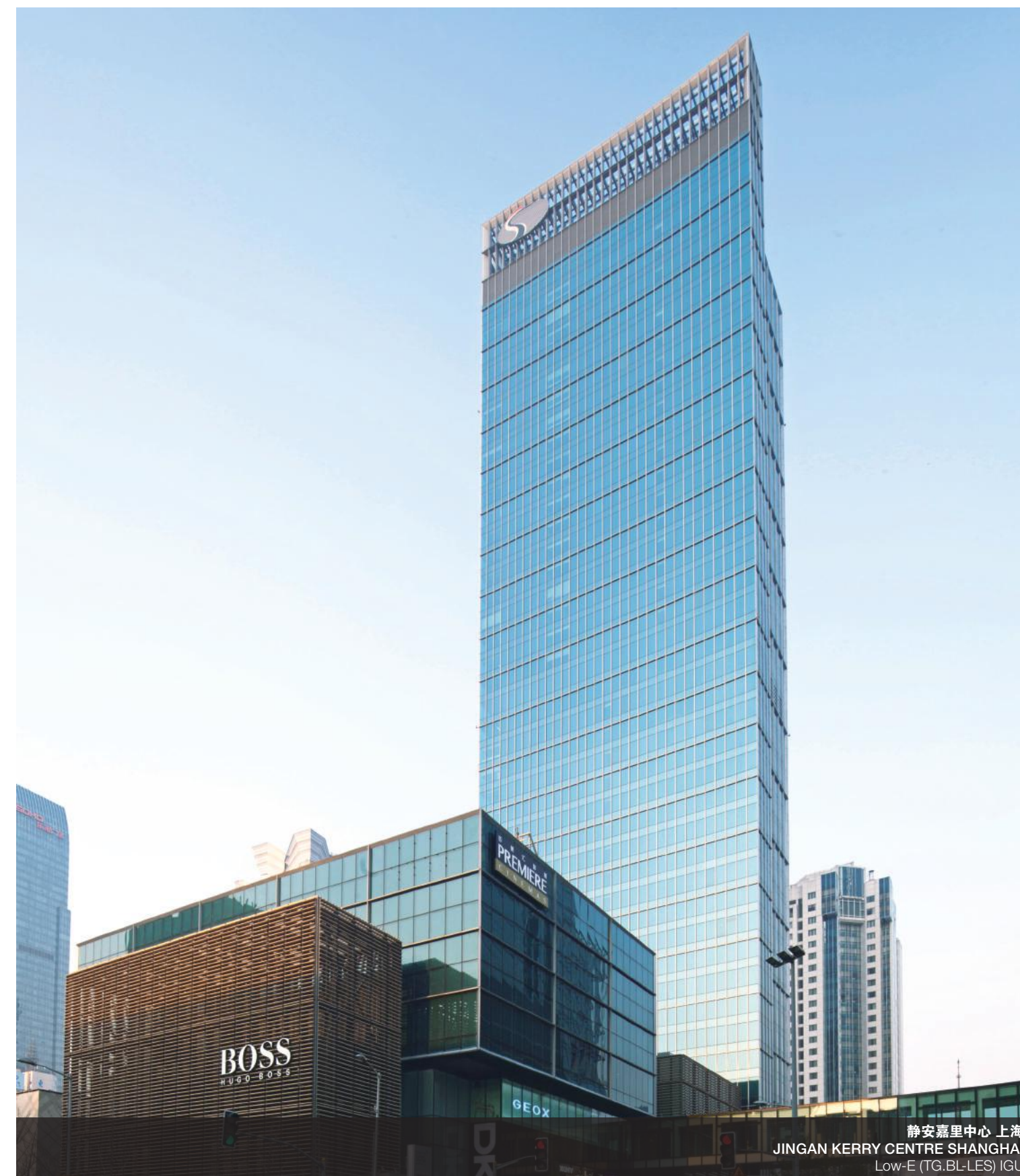


天府软件园 (C10-C12、三期、四期) 成都
TIANFU SOFTWARE PARK CHENGDU
LOW-E (CLR-TRE52、PLE40、PLE60) IGU

Low-E Glass
低辐射玻璃



Low-E Glass
低辐射玻璃



Low-E Glass
低辐射玻璃



Thermo Plastic Spacer (TPS)

热塑性隔条

TPS 是一种新型的中空玻璃暖边系统，它是以特殊丁基胶为辅材，填入分子筛的热塑性隔条。

TPS refers to Thermo Plastic Spacer. It is a new type of Warm Edge System of IGU which made by a special kind of butyl included with integrated desiccant.

特性

- 在中空玻璃生产中，完全代替金属间隔条。
- 不含金属嵌入物，有效提高玻璃边缘的热阻隔性，降低边缘传热系数。
- 有效均衡玻璃各表面的温度，降低露点。
- 对异形玻璃全自动打胶，使玻璃设计变得更为灵活。
- 良好的气密性可有效延长中空玻璃的使用寿命。

用途

- 建筑玻璃、汽车玻璃、火车、高铁等行业用密封胶。

规格

- 打胶厚度: 6~20mm
- 最大尺寸: 2700mm×4000mm

注意事项

- 在恒温条件下完成生产。
- 安装玻璃时用中性粘剂为佳。

Benefits

- To be adopted during IGU production as replacement of metal spacer.
- To lower heat transfer coefficient of glass edge by improving its thermal barrier with no metal.
- To lower dew point by balancing the surface temperature of each pane.
- To lead design more flexible by automatically glue special-shaped glass.
- To extend IGU durability by good air-tightness.

Applications

- To be adopted as architectural glass, automotive glass, train glass, high speed train and sealant in other industries.

Specification

- Thickness: 6~20mm
- Max.Size: 2700mm×4000mm

Notice

- It should be produced at constant temperature.
- Neutral adhesive is recommended when glass installation.

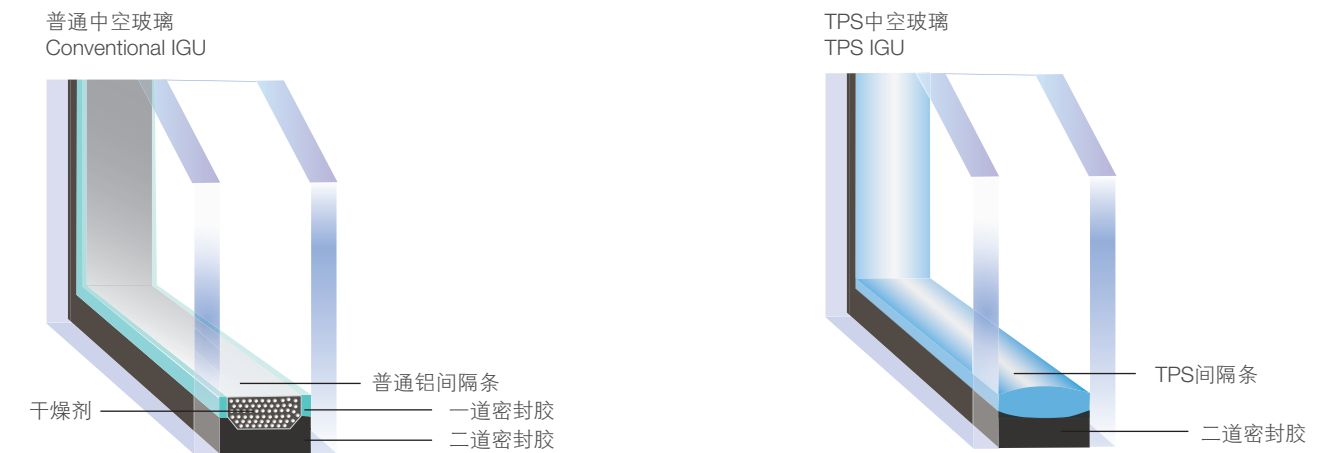
窗户的热传导效率 U_w

玻璃 Glass 窗框 Frame	“单银 - 结 Single Low-E”		“三银 - 结 Triple Low-E”	
	Uf=2.00W/m²K		Uf=2.00W/m²K	
间隔条 Spacer	热塑性间隔条 TPS	普通铝条 Al-spacer	热塑性间隔条 TPS	普通铝条 Al-spacer
氩气 Argon	充	不充	充	不充
“边缘传热系数 Ψ -Value”	0.038W/mK	0.092W/mK	0.038W/mK	0.092W/mK
“整窗传热系数 U_w Window”	1.78W/m²K	2.12W/m²K	1.61W/m²K	1.97W/m²K

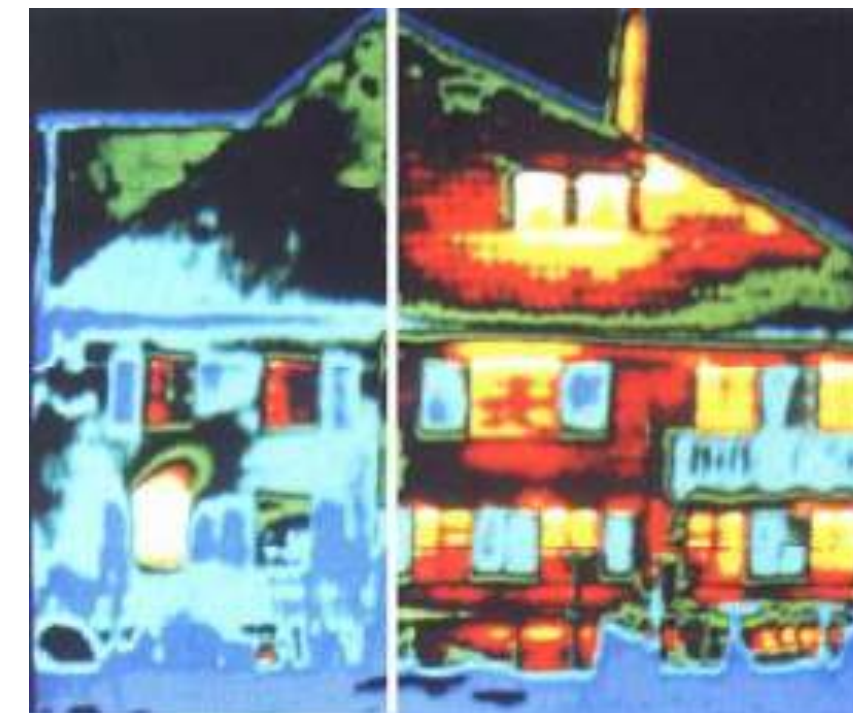
计算条件：根据ASHRAE标准
 整窗面积：1.82m²
 窗框面积：0.55m²
 玻璃面积：1.27m²
 隔条周长：4.54m

Conditions: According to ASHRAE
 Area of window: 1.82m²
 Share of frame: 0.55m²
 Share of glass: 1.27m²
 Length of edge: 4.54m

传统中空玻璃及 TPS 中空玻璃系统比较 SYSTEM COMPARISON



红外线热成像下的房屋热散失 HEAT LOSING THROUGH THE INFRARED THERMAL IMAGING



- TPS 和 Low-E 的中空玻璃 TPS IGU
- 普通的中空玻璃 Conventional IGU

Insulating Glass 中空玻璃

中空玻璃是指两片或多片玻璃以有效支撑均匀隔开并周边粘接密封，使玻璃层间形成有干燥气体空间的制品。

Insulating glass is made by fusing together 2 panes of glass spaced by dry air, argon or other inert gases.

特性

- 隔热效果特佳，是理想的节约能源建材。
- 因中间层是干燥气层，所以有防雾效果。
- 若充入氩气等惰性气体，隔热效果更佳。

用途

- 建筑、火车车窗、冰柜等。

规格

- 中间间距有：6mm、9mm、12mm、15mm、16mm
- 最大尺寸：118"×236" (3000×6000mm)

Features

- Its excellent efficiency in solar heat insulation, greatly reduces cooling loads.
- The dry air inside the enclosure renders the surface free from misting .
- More excellent efficiency will be if fill in argon or other inert gases.

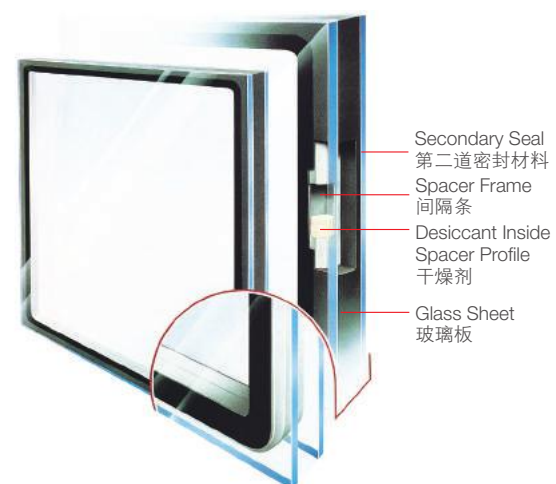
Applications

- Architecture, train window, refrigerator, etc.

Specification

- Air space gap: 6mm, 9mm, 12mm, 15mm, 16mm
- Max.Size: 118"×236" (3000×6000mm)

卓越的中空玻璃技术
DISTINGUISHED TECHNIQUE
FOR INSULATING GLASS PRODUCTION



天河机场 武汉
TIANHE AIRPORT WUHAN
Low-E (CLR-PDE80A04) IGU



保利中心 成都
POLY CENTER CHENGDU
LOW-E IGU

Insulating Glass
中空玻璃



文峰城市广场 南通
WENFENG CITY SQUARE NANTONG
Low-E (CLR-PL50-02) IGU

Insulating Glass
中空玻璃



Insulating Glass
中空玻璃



Low-E Vacuum Glass 真空玻璃

Low-E 真空玻璃简介

将一片平板玻璃及一片 Low-E 玻璃，以真空用封装材料封合，形成一封闭空间，中间以不影响透光性的极小支撑点隔开，利用侧边处的抽气管，将内部空气抽出后封口，即形成 Low-E 真空玻璃。

Introduction to TG TECO Low-E Vacuum Glass

Consists of one piece of float glass and one piece of Low-E Glass, there are tiny spacers to form a gap between two glass plates with a vacuum space 0.2mm. All edges are sealed by frit frame to enclose the space. Insert a tube connected to this space for degassing. Seal the tube after degassed, this panel is formed as a Low-E vacuum glass.

Low-E 真空玻璃的优点

- **节省窗料成本**
厚度变薄，可降低建筑成本。(抑或窄框限制时，则可采用 Low-E 真空玻璃)
- **传热系数 U 值低**
可大幅减低空调耗电量，降低污染物和温室气体排放，减少环境污染，达到节能减碳。
- **隔热保温**
炎热的夏季，能有效阻隔太阳光热源，保持室内凉爽；寒冷的冬季，能有高效能隔绝热耗，维持室内保暖舒适。
- **隔音减噪**
真空层能有效阻隔音传递，隔音量可达 39dB。
- **使用寿命长**
放置吸气剂材料可维持真空度稳定及保护 Low-E 镀膜，延长节能寿命。
- **防止结露**
当室外温度降低到一定程度，一般窗玻璃内表面就会结露，甚至结霜，不仅影响视线，且常有露水顺窗而流，损坏窗饰墙面地板等现象。真空玻璃的结露温度相对较低，最低结露温度可达 -40°C 以下，不会产生窗户雾化及内结露现象。

Low-E 真空玻璃的运用范围

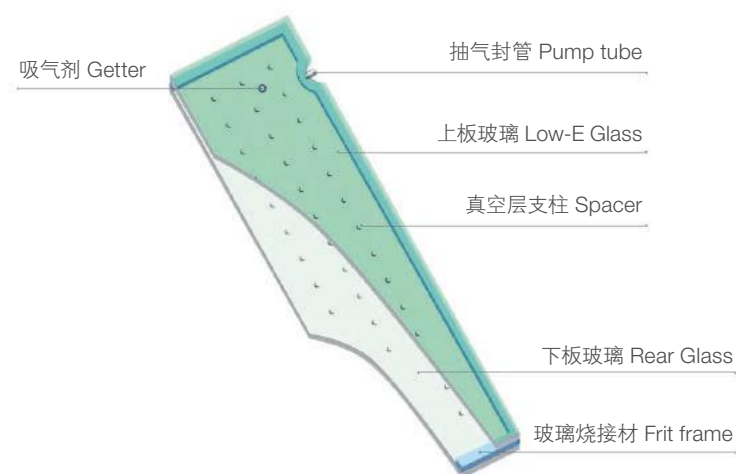
- **建筑用**
保温隔热等节能建筑用窗
- **产业用**
冰箱、红酒柜、冷藏展示柜等冰箱门
- **交通用**
汽车、火车及船舶的用窗
- **特殊项目**
录音室及会议室等需要隔音的室内空间

Application of Low-E Vacuum Glass

- **Construction**
Building windows with thermal insulation and energy-saving properties.
- **Transportation**
Windows of cars, trains and ships.
- **Refrigerator**
Glass doors of refrigerators, freezers, wine coolers, refrigerated display cabinets.
- **Special project**
Interior space in need of sound insulation, such as recording studio and conference room.

Advantages of Low-E Vacuum Glass

- **Window Frame Cost Saving**
thickness is much thinner which can save architectural cost. (Also for narrow window frame design, Vacuum glass is best choice.)
- **Low U value**
significantly reduce power consumption for air conditioning and the pollution and greenhouse gas emissions for a better environmental protection with energy saving and emission reduction.
- **Heat Insulation**
in hot summer, effectively block solar heat and keep interior cool; in cold winter, possess high performance of heat loss insulation, keep interior warm and comfortable.
- **Soundproofing**
vacuum space effectively blocks noise transmission and reaches sound transmission class by 39dB.
- **Long service life**
install getter material inside to maintain vacuum level stable and protect Low-E coating for a long service life.
- **Anti-Dew-Forming**
When outdoor temperature lowers to a certain level, the inner surface of anneal window glass will be dew-forming. Dew-forming temperature of Low-E vacuum glass is relatively low, the lowest condensation temperature of Low-E Vacuum Glass about -40°C without inner dew-forming situation.



产品规格 Specification: (mm)
玻璃厚度 Glass Thickness: 4+4 ~ 8+8
真空间距 Vacuum space: 0.2
最大尺寸 Max.size: 2500×1500 (4+4 ~ 8+8), 3600×1800 (6+6 ~ 8+8)
最小尺寸 Min. size: 500×500

Low-E 真空玻璃的耗能比较 Energy Consumption Comparison of Low-E Vacuum Glass

寒带冬天 Winter in Frigid Zone

产品 Glass type	厚度 Thickness (mm)	U 值 U value (w/m ² k)	热损失量 Heat loss (w/m ²)	暖气估算耗电 12-2 月 (电费以 RMB 0.8/Kw.hr×24hrs 计) The Heating Cost (Dec.-Feb.) (RMB 0.8 per Kw.hr x 24 hrs)		耗能比 Energy Consumption Ratio
				耗电量 (Kw.hr)	耗电费 (RMB)	
CLR 6mm (单片玻璃) Clear-6mm (Monolithic Glass)	6	5.79	225.23	486,497	389,198	1.00
6+12AS+6L (Low-E 中空玻璃) 6+12AS+6L (Low-E Insulating glass)	24	1.80	70.02	151,243	120,994	0.31
6+0.2V+6L (Low-E 真空玻璃) 6+0.2V+6L (Low-E Vacuum glass)	12.2	0.60	23.34	50,414	40,331	0.10
6+12AS+6+0.2V+6L (Low-E 真空中空玻璃) 6+12AS+6+0.2V+6L (Low-E Vacuum combine Insulating glass)	30.2	0.53	20.62	44,539	35,631	0.09

* 寒带冬天室外温度 -17.8°C, 室内温度 21.1°C Assume outdoor temperature -17.8°C, indoor temperature 21.1°C
* 建筑物外墙窗户面积: 1,000 m² Window area: 1000 m²

热带夏天 Summer in Tropical Zone

产品 Glass type	厚度 Thickness (mm)	U 值 U value (w/m ² k)	热获得量 Heat Gain (w/m ²)	冷气估算耗电 6-8 月 (电费以 RMB 0.8/Kw.hr×3hrs 计) Air Conditioner cost (Jun.-Aug.) (RMB 0.8 per Kw.hr x 3 hrs)		耗能比 Energy Consumption Ratio
				耗电量 (Kw.hr)	耗电费 (RMB)	
CLR 6mm (单片玻璃) Clear-6mm (Monolithic Glass)	6	5.23	632.99	77,685	62,148	1.00
6+12AS+6L (Low-E 中空玻璃) 6+12AS+6L (Low-E Insulating glass)	24	1.80	341.64	41,929	33,543	0.54
6+0.2V+6L (Low-E 真空玻璃) 6+0.2V+6L (Low-E Vacuum glass)	12.2	0.61	288.26	35,377	28,302	0.46
6+12AS+6+0.2V+6L (Low-E 真空中空玻璃) 6+12AS+6+0.2V+6L (Low-E Vacuum combine Insulating glass)	30.2	0.56	262.67	32,237	25,790	0.41

* 热带夏天室外温度 31.7°C, 室内温度 23.9°C Assume outdoor temperature 31.7°C, indoor temperature 23.9°C
* 建筑物外墙窗户面积: 1,000 m² Window area: 1000 m²



奇美医院 第四医疗大楼
Chi Mei Hospital-Fourth Medical Building
Low-E 真空玻璃 Low-E Vacuum Glass

Super Clear Glass 超白玻璃

超白玻璃是由透明浮法玻璃，去除微量的杂色，降低玻璃中的铁含量所制造出清澈透明的玻璃。

超白玻璃可再经由钢化、夹胶、中空、镀膜、热弯等加工，除了可以广泛应用于建筑物的外墙以外，高度的洁净感更适合用于汽车车窗及室内，如镜板玻璃、文物展示柜、彩釉玻璃、相框玻璃、家具、桌板玻璃等加强原创及原色的显现。

而现今全球石油短缺价格持续高涨，环保意识抬头，大气层温室效应及减碳问题日趋严重，除节能玻璃外，利用太阳能发电玻璃的运用也成为最重要最迫切的能源产业。超白玻璃的低铁含量，使其具有比明板玻璃更优越的光学性能，及更高的可见光透过率，大大的提升太阳能透过率，科学家及科技产业莫不积极投入研发高转换发电效率的光电玻璃，以拯救地球未来因石油资源枯竭对人类所产生的浩劫。

Super Clear Glass is made up of clear float glass by reducing its green tint and iron content to achieve optimum clarity and vision.

Super Clear Glass can be further processed, such as tempering, laminating, insulating, coating, bending and so on. In addition to widely used on the building facade, the high level of transparency is more suitable for car windows and the interior of the house, for example mirror, display cabinet, ceramic silkscreen glass, picture frame, glass furniture and table tops.

Currently the global oil shortage and rising prices, the environmental awareness, the greenhouse effect and the problem of carbon emission reduction, other than energy saving glass, the application of photovoltaic glass products has become the most important and urgent priority for energy industry. The low iron content enables Super Clear Glass possess better optical performance and higher visible light transmittance than ordinary clear glass, greatly enhances solar heat transmittance. Both scientists and the tech industry do their best to research and develop photovoltaic glass with best efficiency, with the aim to save our planet from catastrophe due to oil resource depletion.

规格

- 厚度: 2mm-19mm
- 日光透过率: 6mm > 91%
- 最大尺寸: 236"×120" 6000mm×3048mm
- 并可依客户提供特定尺寸

Specification

- Thickness : 2mm-19mm
- VT: 6mm > 91%
- Max Size: 236"×120" 6000mm×3048mm
- Sizes can be customized

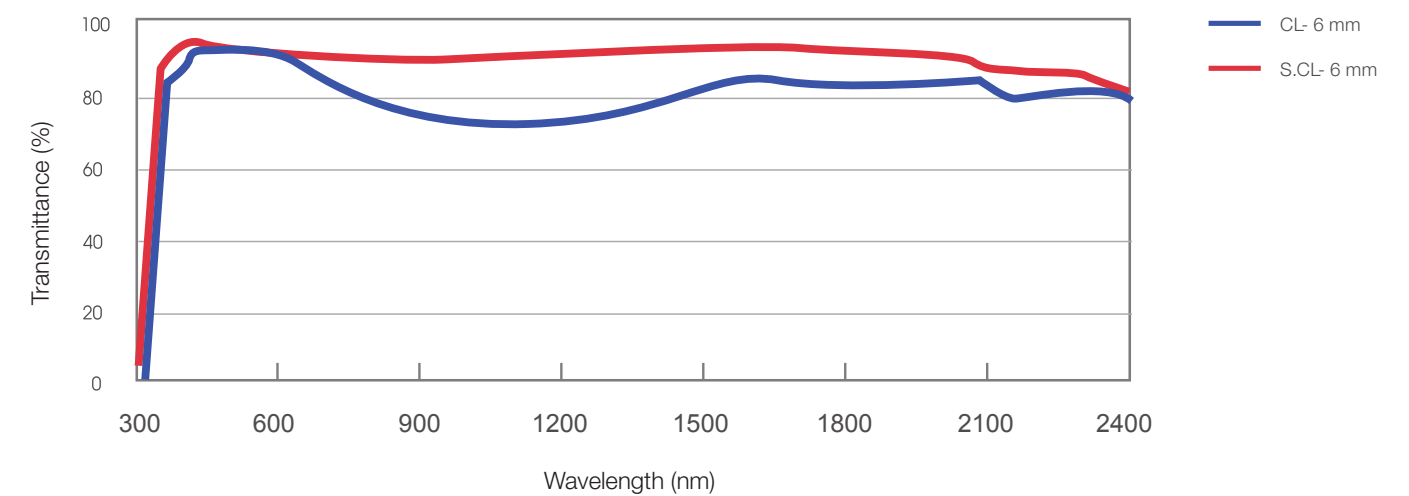


台玻超白玻璃性能数据 TGI FLOAT GLASS OF SUPER CLEAN PERFORMANCE DATA

品名 Product Name	可视光 Visible Light				太阳热能 Solar Heat				U 值 U-Value			遮蔽系数 Shading Coefficient	
	透过率 Trans. (%)	室外 反射率 Outdoor Reflect. (%)	紫外线 透过率 UV Trans. (%)	反射率 Reflect. (%)	吸收率 Absort. (%)	再辐射到室外 Rerad. to Outdoor	再辐射到室内 Rerad. to Indoor	直接 透过率 Direct Trans. (%)	总透过率 Total Heat Trans. (%)	总热 透过量 Relative Heat Gain W/M ²	冬夜 Winter Nighttime W/M ² K		夏日 Summer Daytime W/M ² K
S.CL-2mm	91.5	8	87	8	1	1	0	91	91	704	5.95	5.36	1.05
S.CL-3.2mm	91	8	85	8	2	1	1	90	91	698	5.91	5.33	1.04
S.CL-4mm	91	8	84	8	3	2	1	89	90	692	5.87	5.29	1.03
S.CL-5mm	91	8	83	8	3	2	1	89	90	690	5.83	5.26	1.03
S.CL-6mm	91	8	82	8	4	3	1	88	89	688	5.79	5.23	1.03
S.CL-8mm	91	8	80	8	4	3	1	88	89	685	5.72	5.17	1.02
S.CL-10mm	90	8	78	7	6	4	2	87	89	682	5.65	5.11	1.02
S.CL-12mm	90	8	77	7	7	5	2	86	88	680	5.57	5.04	1.02
S.CL-15mm	90	8	76	7	8	5	3	85	88	674	5.47	4.95	1.01
S.CL-19mm	90	8	75	7	10	7	3	83	86	665	5.34	4.85	0.99

1 W/M² = 0.317 BTU / ft²hr
1 W/M²K = 0.176 BTU / ft²hr°F

光谱比较图



Super Clear Glass
超白玻璃



Photovoltaic Cover Glass 超白光伏玻璃

台玻集团为符合现今节能与环保的世界潮流,开始朝向高科技玻璃产品迈进,其中一项为「太阳能光伏玻璃」(Photovoltaic Glass)。集团内的生产与销售公司分别为:台玻福建光伏玻璃公司、青岛浮法玻璃公司及青岛压花玻璃公司,年产3000万方。

超白光伏玻璃主要用于晶体硅太阳能电池板的盖板玻璃,它具有低含铁量、高透光率、高平整度、高机械强度、低自爆率、抗风化、抗冲击等优异特点。

To fulfill the current global trend towards energy-saving and environmental protection, Taiwan Glass Group is striding into the field of high-technology glass products, among which is the "Photovoltaic Glass". Companies in the group producing and marketing Photovoltaic Glass are "TG Fujian Photovoltaic Glass Co.", "Qingdao Float Glass Co." and "Qingdao Rolled Glass Co.", with total production capacity 30,000,000m².

Photovoltaic Glass is mainly used as the cover glass of solar module and has the merits of low iron, high transmittance, small thickness difference, tempered easily, low self-cracking, efflorescence resistance, hailstones resistance and impact resistance.

产品规格

- 厚度: 3.2mm & 4mm
- 尺寸(原片): 最宽 2200mm
- 尺寸(钢化/镀膜): 定制尺寸
- 标准尺寸: 986mm×1634mm; 986mm×1644mm;
- 花纹样式: 绒面 布纹

产品性能参数

- 含铁量: ≤ 120PPM
- 透光率: ≥ 91.5%

Specification

- Thickness : 3.2mm & 4mm
- Size (Annealed) : Width Max.2200mm
- Size (Tempered/Coating) : Customized Sizes
- Standard Size : 986mm×1634mm; 986mm×1644mm
- Pattern : Prismatic/Mat (P/M) & Mat/Mat (M/M)

Performance parameter

- Iron content: ≤ 120 PPM
- Transmittance: ≥ 91.5%



Solar Concentrating Glass 太阳能聚光镜

台玻拥有国内首条德国专业槽式太阳能镜生产线,以及拥有自主知识产权的平面太阳能镜生产线。其采用台玻集团自主研发生产的高品质超白玻璃作为原料,4mm超白玻璃的反射率≥94%,从而保证产品拥有更好的工作性和耐用性。

台玻悦达太阳能镜板有限公司是国内第一家量产太阳能热发电银镜厂商,拥有全球第七条太阳能热发电槽式银镜生产线,是继美国、德国、西班牙之后,亚洲唯一一条世界一流全进口生产线,也是当今世界上全自动化最高的太阳能聚光镜生产线。

TG has possession of the first professional parabolic trough mirror production line in China, which was imported from Germany, and owns the Intellectual Property Rights of the Flat Mirror production line. TG uses self-developed ultra clear glass as raw sheet for solar mirror. It has high quality and the Reflectivity ≥ 94% (4mm). All these can ensure better workability and durability for the solar mirror.

TYSM is the first mass-produced CSP solar mirror manufacturer in China. For the seventh parabolic trough mirror production line in the world, it is the only one world-class line in Asia following with USA, Germany and Spain with all facilities imported from abroad, is also the top full-automatic solar concentration glass production line worldwide



Solar Concentrating Glass

太阳能聚光镜

抛物面槽式反射镜规格

SPECIFICATION OF PARABOLIC TROUGH SOLAR MIRROR

镜子类别 Mirror types	RP3
内镜尺寸 (mm) Size(inner mirror) (mm)	1700x1641x4
外径尺寸 (mm) Size(outer mirror) (mm)	1700x1501x4
厚度 (mm) Thickness of glass (mm)	4
开口宽度 (mm) Aperture width (mm)	5774
焦距 (mm) Focal length (mm)	1710
镜子属性 Mirror property	超白弯曲全钢化 Ultra clear and full-tempered
集热管 70mm 横截面聚焦率 IC70	≥99.7%
焦点偏差 (mm) Focus deviation (mm)	FDX≤10 FDY≤14
斜率偏差 (mrad) Slope deviation (mrad)	SDX≤3.0 SDY≤4.0

平板式太阳能镜规格 (塔式太阳能和菲涅尔式太阳能镜)

SPECIFICATION OF FLAT SOLAR MIRROR

(FLAT TOWER MIRROR AND FRESNEL MIRROR)

最大尺寸 (mm) Max size (mm)	2440x3660
最小尺寸 (mm) Min size (mm)	1000x800
厚度 (mm) Thickness of glass (mm)	2-8
镜子属性 Mirror property	钢化 / 非钢

产品技术参数

PRODUCT'S TECHNICAL PARAMETERS

检测项目 Test items	槽式 / 塔式 / 菲涅尔式太阳能镜 Parabolic/Tower/Fresnel solar mirror
光学性能 OPTICAL AND PERFORMANCE PARAMETERS	
反射率 (波长 380-780nm) (4mm) Reflectivity (wavelength 380-780nm)	>94%
反射率 (波长 300-2500nm) (4mm) Reflectivity (wavelength 300-2500nm)	>93.5%
银层 / 背漆层 SILVER LAYER/BACK PAINT LAYER	
银层含量 (mg/m ²) Silver layer	>1400mg/m ²
铜层含量 (mg/m ²) Copper layer	>300mg/m ²
底漆厚度 (μm) Base coating	>30μm
中漆厚度 (μm) Intermediate coating	>30μm
面漆厚度 (μm) Top coating	>30μm
粘结配件 (槽式太阳能镜) MOUNTING ELEMENTS (PARABOLIC SOLAR MIRROR)	
材料 Material	高强度陶瓷 High strength ceramic
抗拉强度 Tensile strength	>2000N
漆层附着力测试 (划格测试) PAINT LAYER ADHESION TEST (CROSS-CUT ADHESION TEST)	
测试标准 Standard	ASTMD3359-08
验收标准 Acceptance criteria	>3B
基片 Substrate	低铁超白玻璃原片 Low-iron float glass as the substrate
原片透过率 Glass transmittance (4mm)	≥91%



Clear Float Glass 透明浮法玻璃

透明浮法玻璃是玻璃膏经控制闸门进入锡槽，由于地心引力及本身表面张力作用浮于熔融锡表面上后，再进入徐冷槽，使玻璃两面平滑均匀，波纹消失而制成。

Clear float glass is made of molten glass which flows through tweek to tin bath and then to lehr. While floating through the molten tin, the glass under the works of gravity and surface tension becomes smooth and flat at both sides.

特性

- 表面平滑无波纹，透视性佳。
- 规格可做弹性配合，减少切片损失。
- 可提供制造各种加工层次的素材。

用途

- 建筑用
- 镜板
- 家具、装饰用
- 光学仪器用
- 车辆用

Benefits

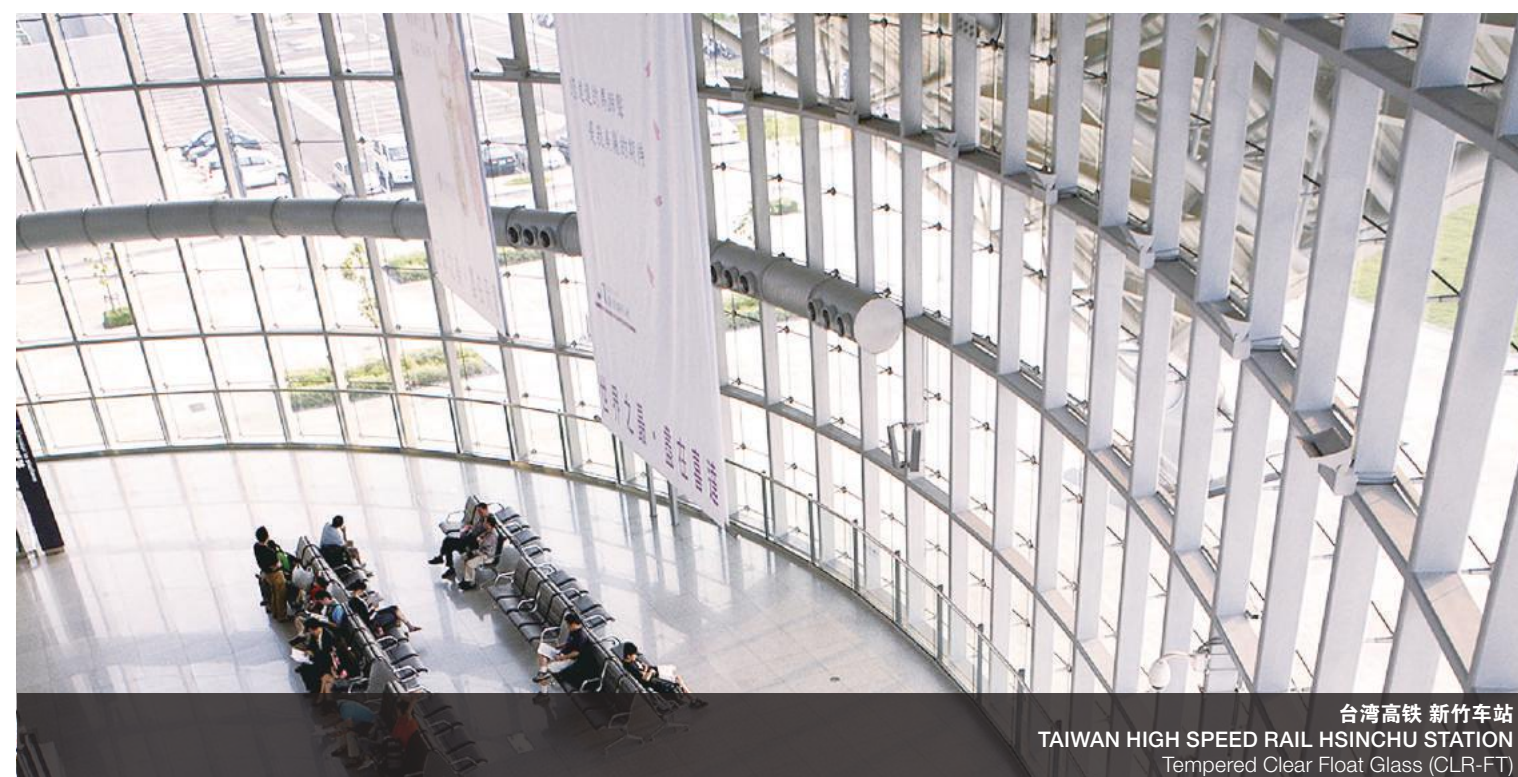
- Smooth and flat surface, and good vision.
- Flexible size specifications to minimize cutting loss.
- Substrate for each level of glass processing.

Applications

- Architecture
- Mirror
- Furniture and decoration
- Optical instrument
- Automobile

规格 SPECIFICATION

厚度 Thickness (mm)	范围 Tolerance (mm)	重量 Weight		常备最大规格 Max. Stock Size	
		kg/ft ²	kg/m ²	in.	mm
3	2.8-3.2	0.68	7.34		
5	4.8-5.2	1.14	12.32	132×144	3353×3660
8	7.7-8.3	1.86	19.57		
12	11.6-12.4	2.73	29.33		
19	18.5-19.5	4.32	46.48	394×144	10000×3660



台湾高铁 新竹车站
TAIWAN HIGH SPEED RAIL HSINCHU STATION
Tempered Clear Float Glass (CLR-FT)



台湾高铁 嘉义车站
TAIWAN HIGH SPEED RAIL CHIAYI STATION
Low-E (CLR-TDE) IGU

Tinted Float Glass

着色浮法玻璃

着色浮法玻璃是以调拌适量色彩配方的玻璃膏经控制闸门进入锡槽，由于地心引力及本身表面张力作用浮于熔融锡表面上后，再进入徐冷槽，使玻璃两面平滑均匀，波纹消失而制成。包括法国绿色、海洋蓝色、浅蓝色、茶色、灰色等。

Tinted float glass is made of molten glass mixing with a prescribed quantity of tint agent, which flows through tweel to tin bath and then to lehr. While floating through the molten tin, the glass under the works of gravity and surface tension becomes smooth and flat at both sides. Tints available are French Green, Ocean Blue, TG Blue, Bronze, Grey, etc.

特性

- 增强吸收与再辐射出的功能。
- 减少辐射热的穿透，节省能源。
- 增加建筑物外观色彩变化，创造更高价值感。
- 可提供制造各种加工层次的素材。

用途

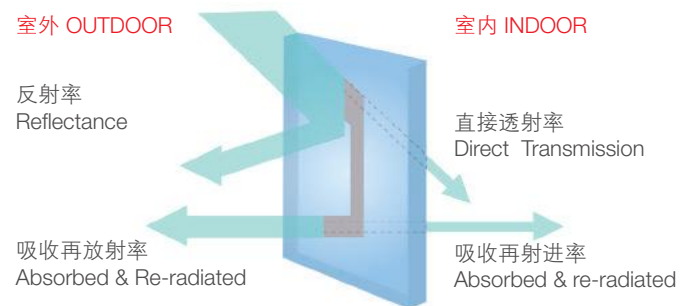
- 建筑用
- 车辆用
- 家具、装饰用

Benefits

- Energy saving through good heat absorption and reflection which reduce the transmission of solar heat radiation.
- High value creation by color variety of building's exterior appearance.
- Substrate for each level of glass processing.

Applications

- Architecture
- Automobile
- Furniture and decoration



台玻色板玻璃性能数据 TG TINTED FLOAT GLASS PERFORMANCE DATA

色别 Color	厚度 Thickness (mm)	可见光 透射率 Visible Trans. (%)	紫外线 透射率 UV Trans. (%)	反射率 Reflec. (%)	太阳热能 Solar Heat			U 值 U-Value				遮蔽系数 Shading Coefficient	
					吸收率 Absorb.%			直接 透射率 Direct Trans. (%)	总透 透率 Total Heat Trans. %	总热 透过量 Relative Heat Gain W/M ²	冬夜 Nighttime W/M ² /K		夏日 Daytime W/M ² /K
					吸收 Absorb. (%)	再辐射 射出 Radiated To Outdoors	再辐射 射入 Radiated To Indoors						
法国绿色 French Green	2	84	39	7	26	19	7	67	74	581	6.34	6.11	0.85
	3	81	31	7	35	26	9	58	67	534	6.29	6.17	0.77
	3.2	80	31	7	36	27	9	57	66	527	6.28	6.17	0.76
	3.5	79	30	7	37	28	9	56	65	521	6.28	6.18	0.75
	4	77	28	7	39	29	10	54	64	512	6.26	6.19	0.74
	5	74	24	6	46	34	12	48	60	482	6.22	6.21	0.69
	6	71	20	6	50	37	13	44	57	460	6.17	6.21	0.65
灰色 Grey	8	65	15	6	57	42	15	37	52	423	6.09	6.20	0.59
	10	60	12	6	63	47	16	31	47	390	6.00	6.16	0.54
	12	55	9	5	69	51	18	26	44	365	5.91	6.10	0.50
	5	51	21	6	44	33	11	50	61	493	6.22	6.20	0.71
	6	45	17	6	50	37	13	44	57	460	6.17	6.21	0.65
海洋蓝色 Ocean Blue	4	65	32	7	37	27	10	56	66	532	6.26	6.16	0.75
	5	60	28	7	43	32	11	50	61	491	6.22	6.20	0.70
	6	55	24	6	49	36	13	45	58	466	6.17	6.20	0.66
蓝色 Blue	8	46	18	6	57	42	15	37	52	423	6.09	6.20	0.59
	5	76	34	7	35	25	10	58	68	539	6.22	6.11	0.78
	6	73	30	6	40	29	11	54	65	520	6.18	6.12	0.75
	8	68	25	6	48	35	13	46	59	476	6.09	6.13	0.68
	10	63	21	6	54	39	15	40	55	447	6.00	6.09	0.63
12	58	18	6	59	43	16	35	51	420	5.93	6.06	0.59	

Solar Reflective Glass

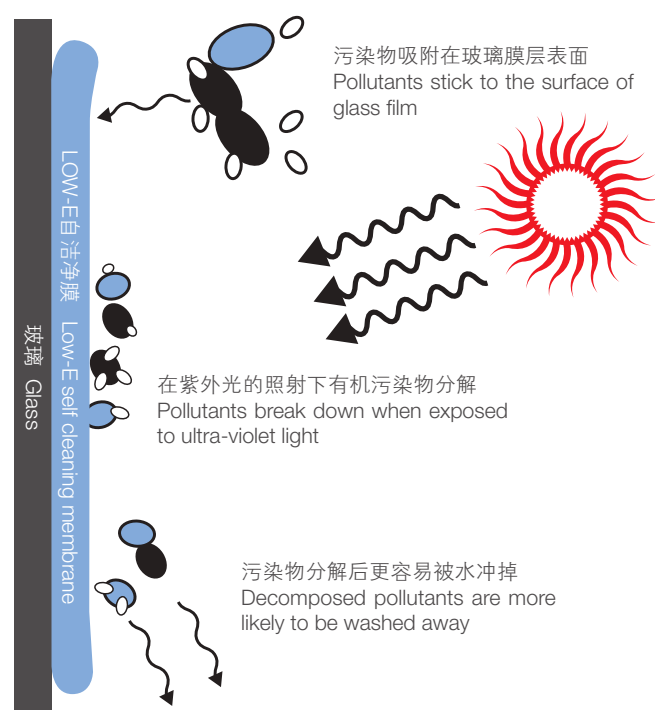
热反射玻璃

离线热反射玻璃是在真空室内,用真空溅镀法,将金属或者金属化合物,溅镀在玻璃表面,使其产生一层或者多层均匀的金属氧化物或氮化物膜,因金属镀膜的厚薄不同,呈现出不同的色彩及高性能的隔热效果。

在线 LVC 热反射玻璃是使用特殊气体在锡槽内与玻璃表面反应形成薄膜,视使用的原板可呈现不同的色彩。

Off-line reflective glass is manufactured by using the magnetron sputtered vacuum deposition technique. In vacuum chambers, a homogeneous film of metal or metal compound is coated directly on float glass. By adjusting specific factors in the process, different thickness of this metallic film coated will lead to various colors and high thermal performances of reflective glass products.

On-line LVC reflective glass is manufactured by chemical vapor deposition on glass while it is obtained by different substrate colors.



特性

- 因隔热性高,可节省能源。
- 可防阳光直射,给室内居住者舒适感。
- 可呈现多彩和谐的建筑物外观。
- 具镜子效果,可视光线反射效果,把天空或周围的环境景色,映照在建筑物上。

用途

- 建筑及装饰用

规格

- 色别:金黄色、银色、蓝色、古铜色、不锈钢色、钛银蓝色、绿银色、蓝银色、LTO色、浅灰色。
- 厚度: 3~19mm
- 常备最大尺寸:
离线热反射玻璃
大陆 130"×236" (3300mm×6000mm)
台湾 130"×236" (3300mm×6000mm)
在线 LVC 热反射玻璃
大陆 96"×130" (2440mm×3300mm)
台湾 108"×134" (2743mm×3404mm)
- 最小尺寸: 离线反射钢化玻璃 12"×39" (305mm×991mm)

注意事项

- 安装时玻璃面朝室外,镀膜朝室内。
- 在线 LVC 热反射玻璃成品后,仍可作弯曲或钢化加工。

Benefits

- High energy saving.
- Filters glittering sunlight.
- Adding aesthetic senses to building appearance.
- Mirror effect.

Applications

- Architecture and decoration

Specification

- Colours: Yellow-gold, Silver, Blue, Bronze, Stainless steel, Titanium silver, Green-silver, Blue-silver, LTO, Light gray.
- Thickness: 3~19mm
- Stock Max. size:
Off-line Reflective Glass
China 130"×236" (3300mm×6000mm)
Taiwan 130"×236" (3300mm×6000mm)
On-line LVC reflective glass
China 96"×130" (2440mm×3300mm)
Taiwan 108"×134" (2743mm×3404mm)
- Min.size: Off-line reflective tempered glass 12"×39" (305mm×991mm)

Notice

- On the occasion of single glazing, the coating face should be toward inside.
- On-line LVC reflective glass can be bent or tempered after manufactured.

台玻在线 LVC 热反射玻璃性能数据表 TG ON-LINE LVC REFLECTIVE GLASS PERFORMANCE DATA

原板 Raw Glass	色别 Color	编号 Item Code	厚度 Thickness (mm)	可视光 Visible Light			紫外线 UV			太阳能 Solar Heat			U 值 U-Value		
				透射率 Trans. (%)	室外 Outdoor	室内 Indoor	透射率 Trans. (%)	反射率 Reflect. (%)	吸收率 Absort. (%)	直接透射率 Direct Trans. (%)	总透射率 Total Heat Trans. (%)	总热透射量 Relative Heat Gain W/M ²	冬夜 Winter Nighttime W/M ² /K	夏日 Summer Daytime W/M ² /K	遮蔽系数 Shading Coefficient
透明 Clear	古铜色 Bronze	CL-LVC	6	32	40	50	6	30	29	41	48	393	6.18	6.01	0.55
			8	30	38	50	5	26	36	38	47	387	6.09	6.00	0.54
			10	29	36	50	4	23	42	35	46	381	6.01	5.98	0.53
法国绿色 F-Green	翠绿色 F-Green	F.GR-LVC	5	26	33	50	3	18	60	22	37	320	6.22	6.35	0.43
			6	25	31	50	2	16	65	19	36	308	6.18	6.35	0.41
			8	23	28	50	2	13	72	15	34	295	6.09	6.32	0.39
台玻蓝 TG-BL	台玻蓝 TG-BL	BL-LVC	5	29	34	50	3	24	48	28	41	351	6.22	6.24	0.49
			6	28	32	50	3	20	54	26	41	351	6.18	6.26	0.48
			8	27	31	50	3	17	61	24	40	346	6.18	6.26	0.47
海洋蓝色 O-BL	海洋蓝色 O-BL	O.BL-LVC	5	21	23	50	3	16	58	26	41	346	6.22	6.34	0.47
			6	20	20	50	3	14	64	22	39	333	6.18	6.34	0.45
			8	17	18	50	2	12	71	17	35	301	6.09	6.31	0.40

Solar Reflective Glass 热反射玻璃

台玻离线热反射玻璃性能数据表

TG OFF-LINE SOLARFLEX REFLECTIVE GLASS PERFORMANCE DATA

原板 Raw Glass	色别 Color	编号 Item Code	镀膜 编号 Coat Code	厚度 Thickness (mm)	可视光 Visible Light			紫外线 透过率 UV Trans. (%)	太阳能 Solar Heat			U 值 U-Value			遮蔽系数 Shading Coefficient	
					透射率 Trans. (%)	反射率 Reflect. (%)			直接 透射率 Direct Trans. (%)	总透射率 Total Heat Trans. (%)	总热 透射量 Relative Heat Gain W/M ²	冬夜 Winter Nighttime W/M ² /K	夏日 Summer Daytime W/M ² /K			
						室外 Outdoor	室内 Indoor									
法国绿色 F- Green	银色 Silver	FGR -SL	14	6	12	28	24	3	14	79	7	26	232	5.47	5.48	0.30
				8	11	24	24	2	12	82	6	25	225	5.42	5.43	0.29
				10	10	20	24	2	9	86	5	25	225	5.38	5.39	0.29
	不锈钢色 SS	FGR -SS	14	6	12	24	30	19	75	6	23	204	5.00	5.13	0.26	
				8	11	22	30	17	78	5	23	202	4.94	5.09	0.26	
				10	10	21	30	16	80	4	22	197	4.88	5.06	0.25	
	泥色 SC	FGR -SC	32	6	27	12	24	8	8	76	16	36	309	5.73	5.96	0.42
				6	50	24	34	11	14	54	32	47	388	6.09	6.18	0.53
				8	47	21	34	8	11	63	26	43	357	6.02	6.18	0.49
10				41	18	34	6	10	69	21	40	338	5.93	6.13	0.46	
6				51	6	14	12	5	65	30	48	369	6.15	6.32	0.55	
8				46	5	14	9	5	70	25	44	370	6.06	6.28	0.51	
浅灰色 LGY	FGR -LGY	60	10	42	5	14	7	5	74	21	41	345	5.98	6.22	0.47	

台玻离线热反射玻璃性能数据表

TG OFF-LINE SOLARFLEX REFLECTIVE GLASS PERFORMANCE DATA

原板 Raw Glass	色别 Color	编号 Item Code	镀膜 编号 Coat Code	厚度 Thickness (mm)	可视光 Visible Light			紫外线 透过率 UV Trans. (%)	太阳能 Solar Heat			U 值 U-Value			遮蔽系数 Shading Coefficient	
					透射率 Trans. (%)	反射率 Reflect. (%)			直接 透射率 Direct Trans. (%)	总透射率 Total Heat Trans. (%)	总热 透射量 Relative Heat Gain W/M ²	冬夜 Winter Nighttime W/M ² /K	夏日 Summer Daytime W/M ² /K			
						室外 Outdoor	室内 Indoor									
海洋蓝色 O-BL	银色 Silver	OBL -SL	14	6	8	17	24	4	14	79	7	25	225	5.47	5.48	0.30
				8	6	14	24	3	12	82	6	25	225	5.42	5.43	0.32
				10	5	11	24	3	10	86	5	25	225	5.38	5.39	0.31
	灰色 GY	OBL -GY	20	6	12	15	37	13	77	10	29	252	5.44	5.66	0.33	
				8	10	14	37	11	81	8	28	245	5.37	5.62	0.32	
				10	8	13	37	11	83	6	27	239	5.31	5.57	0.31	
亮白色 LTO	OBL -LTO	63	6	37	16	34	12	12	55	33	48	395	6.10	6.18	0.55	
			8	31	13	34	9	10	64	26	44	369	6.02	6.19	0.51	
			10	26	10	34	7	8	71	21	40	338	5.98	6.15	0.46	
台玻蓝 TG-BL	亮白色 LTO	BL -LTO	63	6	50	28	38	19	17	43	40	52	426	6.09	6.07	0.60
				10	40	26	37	14	16	54	30	44	371	5.92	6.00	0.51
				72	6	59	20	28	15	13	42	45	56	458	6.07	6.03
	浅灰色 LGY	BL -LGY	60	6	44	7	17	14	6	62	32	49	406	6.01	6.16	0.57
				6	51	6	14	18	6	56	38	54	445	6.15	6.24	0.63



Tempered Glass 钢化玻璃

钢化玻璃是将平板玻璃加热接近软化点时，在玻璃表面急速冷却，使压缩应力分布在玻璃表面，而引张应力则在中心层。因有强大的压缩应力，使外压所产生的引张应力，被玻璃的强大压缩应力所抵消，增加玻璃使用的安全度。

Tempered glass is made by heating flat glass to just below its softening temperature and suddenly chilling it with jets of cold air. It results the outer skins under powerful compressive stress and the interior with severe tensile stress. In consequence, the impact applied to the glass will be overcome by the compressional stress on the surfaces to assure safety of use.

特性

- 采用水平钢化，故没有吊孔。
- 钢化玻璃的强度约为普通玻璃的 5 倍。
- 当玻璃被外力破坏时，成为豆粒大的颗粒减少对人体的伤害。
- 可耐温度的急速变化，(例 5mm 钢化玻璃，约可耐摄氏 200 度的温差变化)。
- 钢化玻璃因有瞬间破裂的风险，应再作热浸处理 (Heat Soak Test)，确保使用上更安全。

用途

- 汽车、火车、船舶。
- 建筑、家具、自动门、电扶梯、壁炉等。

规格

- 厚度：3.8-19mm
- 最大尺寸：118" × 315" (3000mm×8000 mm)

Benefits

- No tong marks on the glass as TG adopts the horizontal tempering process.
- 5 times stronger than annealed glass.
- Once breakage occurs, the glass disintegrates into small cubical fragments which are relatively harmless to human body.
- It withstands abrupt change of temperature. For example, a piece of 5mm tolerates the temperature variations within the range of 200°.
- Tempered glass should undergo heat soak test to improve safety in use.

Applications

- Automobile, train, vessel.
- Architecture, furniture, automatic door, escalator, fireplace, etc.

Specification

- Thickness: 3.8 ~ 19mm
- Max.size: 118" × 315" (3000mm×8000 mm)



Bent Tempered Glass

弯曲钢化玻璃

弯曲钢化玻璃是建筑外观建材的新趋势，在全球市场的需求正快速的成长，因应建筑物外观日趋典雅的造型及对热弯造形更大尺寸的需求，台玻特别引进芬兰 Glassrobots 公司所设计新一代的水平弯曲钢化玻璃加工系统，定名为“彩虹制造者”的专利生产设备，采用特殊调整热弯半径的控制技术，可塑造特殊圆弧的玻璃形状，玻璃在加工炉中经由精确的温度加热控制，可达到正确的加工温度，这项方法能减少玻璃因过度加热而产生的不整波纹，保障优良的品质。

Bent tempered architectural glass Represents trend in construction and facade materials and has seen rapid growth in worldwide demand . In response to an increase in architectural glass applications in sophisticated facades and the need for larger curved glass surfaces. Taiwan Glass has introduced Rainbowmaker TSF Combi™ Bending & Tempering System, a horizontal bending and tempering glass processor designed by Glassrobots, Finland. Exceptional technology adjusts the bending radius and control system parameters to achieve cylindrical and curved glass shapes. The glass is heated to the correct temperature in the precisely controlled furnace, which eliminates glass waviness as a result of overheating and ensures an outstanding glass quality.



圆融星座 苏州
HARMONY STAR BUILDING SUZHOU
Low-E (CLR-PDE49) IGU



甘肃大剧院
GANSU GRAND THEATRE
Low-E (CLR-TRE45) IGU

特性

- 弯曲钢化玻璃的强度为一般热弯玻璃的 3 - 5 倍。
- 玻璃四周边没有吊孔。
- 采用水平热弯钢化，品质稳定。
- 凹凸两面均可达到相同良好的品质，尤其在应用于热反射玻璃热弯情形时，更显示出清晰的视觉品质。

用途

- 可加工成热弯钢化中空玻璃。
- 波浪型、弯曲型建筑物玻璃帷幕墙。如：办公大楼、购物中心、航空站、音乐厅。
- 弧形旋转大门、景观电梯外罩。
- 弧形楼梯、扶手、天窗、通道天篷。
- 弧形鱼缸、展示橱柜、造型家具。
- 弧形办公室隔间。

规格

- 弯曲钢化玻璃
- 厚度：6mm-15mm
- 最大尺寸：
8mm&10mm: 87"×138" (2200mm×3500mm)
6mm&12mm: 79"×138" (2000mm×3500mm)
15mm: 60"×99" (1500mm×2500mm)
- 最小尺寸：9"×17" (220mm×430mm)
- 弯曲半钢化玻璃
- 厚度：5mm-8mm
- 最大尺寸：87"×138" (2200mm×3500mm)
- 最小尺寸：9"×17" (220mm×430mm)
- 弧深度：500mm 以下
- 弯曲角度：1/4 圆以下

Benefits

- 3-5times harder than ordinary bent glass.
- No tong marks on the glass.
- Horizontal bending and tempering method ensures stable product quality.
- Both sides of the curved glass surfaces can achieve outstanding quality. Exceptional optical quality is especially prominent in bent tempered reflective glass.

Applications

- Bent tempered glass can be processed into bent tempered insulating glass.
- Wavelike and curved curtain wall panels for offices, shopping centers, airports and concert halls.
- External walls of revolving doors and exposed elevators.
- Curved or revolving stairs, handrails, skylights and arcade roofing.
- Curved aquariums, display shelves and form-oriented furniture.
- Curved partitions inside offices.

Specification

- Bent Tempered Glass
- Thickness:6mm-15mm
- Max.size:
8mm&10mm: 87"×138" (2200mm×3500mm)
6mm&12mm: 79"×138" (2000mm×3500mm)
15mm: 60"×99" (1500mm×2500mm)
- Min.size: 9"×17" (220mm×430mm)
- Bent Heat Strengthened Glass
- Thickness: 5mm-8mm
- Max.size: 87"×138" (2200mm×3500mm)
- Min.size: 9"×17" (220mm×430mm)
- Curve depth:up to 500mm
- Bending angle:up to 90°

Heat Soak Test

热浸处理

台玻引进芬兰 TAMGLASS 热浸炉，将钢化玻璃中偶然存在的硫化镍 (NiS) 杂质，在持温的热浸炉内严格控制，由于硫化镍 (NiS) 会由高温的 α -NiS 转换成低温的 β -NiS 的状态。转换会伴随 2-4% 体积扩张，若其位置正好在张力层，则会在热浸炉内先爆开，以达降低钢化玻璃安装后瞬间破裂机率的目的。热浸炉操作的流程及温度的变化图：以适当的时间 (T2) 约 2-8 小时，控制温度在 $290^{\circ}\text{C} \pm 10^{\circ}\text{C}$ ，之后再降温至常温。

Taiwan Glass employs the heat soak testing system from Finland's Tamglass to detect the occasional occurrence of nickel sulfide (NiS) inclusions in tempered glass. Under strictly controlled temperatures, high-temperature β -NiS converts to low-temperature α -NiS which accompanies a 2-4% expansion in volume and causes the glass to break if the inclusion is located at a tensile stress. The test reduces the frequency of spontaneous breakage of tempered glass after installation. Tempered glass is heat soaked for 2-8 hours (t2) at a constant temperature of $290^{\circ}\text{C} \pm 10^{\circ}\text{C}$ and then allowed to return to room temperature over a specified time.

特性

- 计算机控管，质量保障
 - 全世界最知名的计算机全自动控制系统，质量有保障。
 - 降低钢化玻璃瞬间破裂的机率
 - 强度及安全并重
- 钢化玻璃为普通玻璃强度的 3-5 倍，理应很安全才是，但偶发生钢化玻璃已经安装后甚至使用很多年后，在不明原因情况下瞬间破裂，造成车辆、人员等的伤害，为使两者可以兼顾的情形下，设计时指定钢化玻璃加热浸 (Heat Soak Test) 为必要的条件。

建议

- 钢化玻璃有必要做热浸处理

规格

- 3mm - 19mm

尺寸

- 最大尺寸: 118"×315" (3000mm×8000 mm)
- 最小尺寸: 12"×12" (305mm×305mm)

Benefits

- Computerized control system, guaranteed quality.
 - The Tamglass fully-automated computerized control system is internationally recognized and offers guaranteed quality.
 - Reduces risks of spontaneous breakage of tempered glass.
 - Increases strength and safety.
- Tempered glass is 3-5 times stronger than annealed glass and is very safe. However, after installation, tempered glass may shatter spontaneously for no apparent reason, sometimes even after being used for many years. These rare incidences of breakage cause damage to cars and people. To reduce the frequency of such instances, tempered glass should specify the heat soak test during design.

Applications

- All tempered glass should undergo heat soak test

Specification

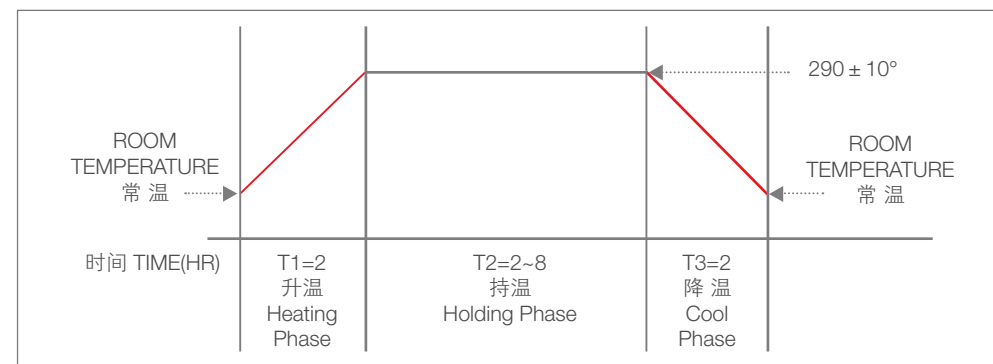
- 3mm-19mm

Heat Soak Size

- Max. Size: 118"×315" (3000mm×8000 mm)
- Min. Size: 12"×12" (305mm×305mm)

热浸炉操作的流程及温度变化

HEAT SOAK TEST PROCESS AND TEMPERATURE CHANGES



南投 九二一地震教育园区
921 EARTHQUAKE MUSEUM NANTOU
Tempered Glass (CLR-FT-HS)

Laminated Glass

夹胶玻璃

夹胶玻璃是利用高温高压，在两片玻璃间夹入强韧而富热可塑性的树脂中间膜（例如 PVB）而制成。

Laminated glass is formed as sandwich of 2 sheets of glass, between which is bonded together with a tough and thermoplastic polyvinyl butyral (Such as PVB) interlayer under heat and pressure.



苏宁易购 南京
SUNINGYIGOU NANJING
Low-E Laminated Glass (CLR-PLE55C) IGU

规格

- 最大尺寸：
建筑用 118" x 236" (3000 x 6000mm)
车辆用 39" x 86 1/2" (991mm x 2197mm)

特性

- 安全性极高的建材
因中间夹着强韧而富粘着力的中间膜，所以不易在受冲击力下被贯穿，且破损后其玻璃片不易飞散，因此比其它种类玻璃具较高之安全性，如防盗、防爆及防弹等。
- 高效率节能建材
中间膜有减轻太阳光中的红外线（热线）机能，可节省冷气设备及电量，增加生活环境舒适度。
- 提升建筑物外观的美感
使用有色中间膜的夹胶玻璃，最易调和建筑物周围的景色及满足设计师需求。
- 隔音性
中间膜隔音效果甚佳
- 隔离紫外线
中间膜有隔离紫外线的效果，所以可防止室内家具、织物、陈设品和壁纸等受损。

用途

- 建筑用。
- 汽车前挡风玻璃用。
- 防爆、防弹用。
- 家具用。

Specification

- Max. size:
For architecture: 118" x 236" (3000 x 6000mm)
For automobile: 39" x 86 1/2" (991mm x 2197mm)

Benefits

- Extremely high safety
The PVB interlayer withstands penetration from impact. Even if the glass cracks, splinters will adhere to the interlayer and not scatter. In comparison with other higher strength to resist shock, burglary, burst and bullets.
- Energy-saving building materials
PVB interlayer impedes the transmission of solar heat and reduces cooling loads.
- Create aesthetic sense to buildings
Laminated glass with a tinted interlayer will beautify the buildings and harmonize their appearances with surrounding views which meet the demand of architects.
- Sound control
PVB interlayer is an effective absorber of sound.
- Ultraviolet screening
The interlayer filters out ultraviolet rays and prevents the furniture and curtains from fading effects.

Applications

- Architecture.
- Automotive windshield.
- Bullet/burst-proof purpose (can be designed for individual project).
- furniture.

安全特性

SAFETY PERFORMANCE



夹胶玻璃
安全破裂，在重球撞击下可能碎裂，但整块玻璃仍保持一体性碎块和锋利的小碎片仍与中间膜粘在一起。

LAMINATED GLASS
May crack under impact, but typically remains integral. Splinters and sharp fragments adhere to interlayer.



普通玻璃
一撞就碎，典型的破碎状况（包括较厚的玻璃）玻璃碎成许多长条形的碎片。

ANNEALED GLASS
Easily fractures. Typical breakage (including thicker glass) produces long, sharp-edged splinters.



覆盖薄膜的普通玻璃
覆于玻璃表面的薄膜增加少许的保护。玻璃易碎，表面薄膜与碎玻璃分开，使碎片朝内飞。

REMEDIAL FILM APPLIED TO ANNEALED GLASS
Thin (PET) remedial film applied to glass surface does not strengthen the glass and provides little additional protection. The glass easily fractures. The plastic film delaminates, allowing sharp shards to fly inward.



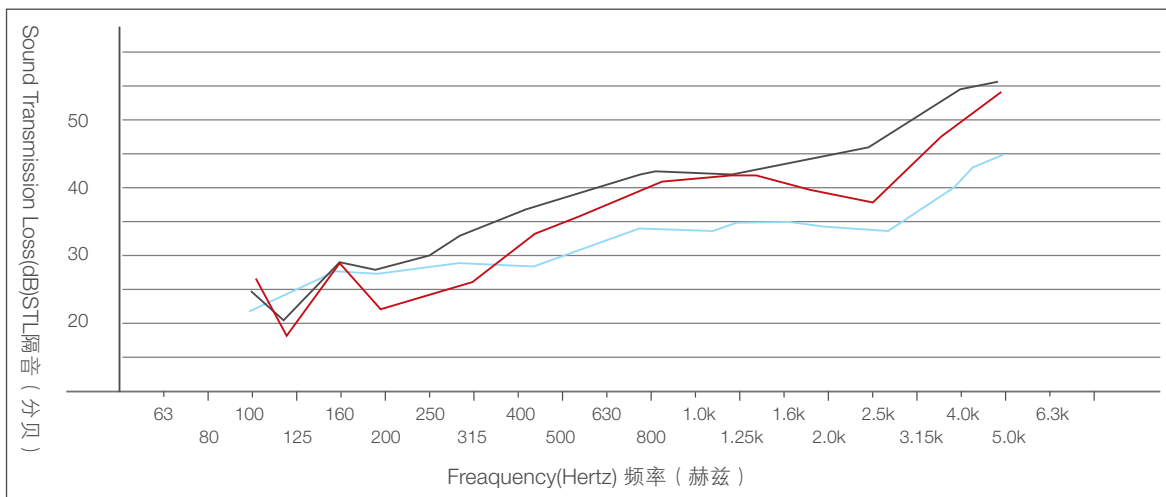
钢化玻璃
需要较大冲击力才碎，一旦碎裂，整体玻璃爆炸成无数细微颗粒，框架中仅存少许碎玻璃。

TEMPERED GLASS
Higher impact energy required to break, but shatters completely when broken. Few glass pieces remain in frame.

Laminated Glass 夹胶玻璃

隔音特性 SOUND INSULATION PERFORMANCE

河岸声学实验数据 Riverbank Acoustical Laboratories Test Data

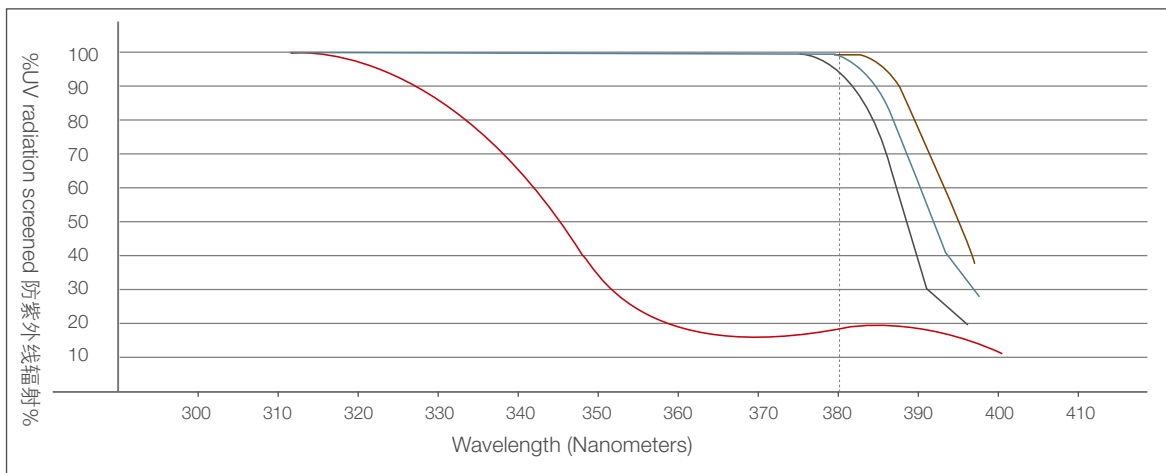


- 1 Double Laminated
多层夹胶玻璃
- 1/4 Single Laminated
夹胶玻璃
- 1 Laminated-Insulating
夹胶中空玻璃

※The data and information set forth above are based on samples and are not guaranteed for all samples or application. 以上数据和信息以样品试验为基础，不能保证所有的样品或应用。

防紫外线特性 SOLAR ULTRAVIOLET (UV) CONTROL PERFORMANCE

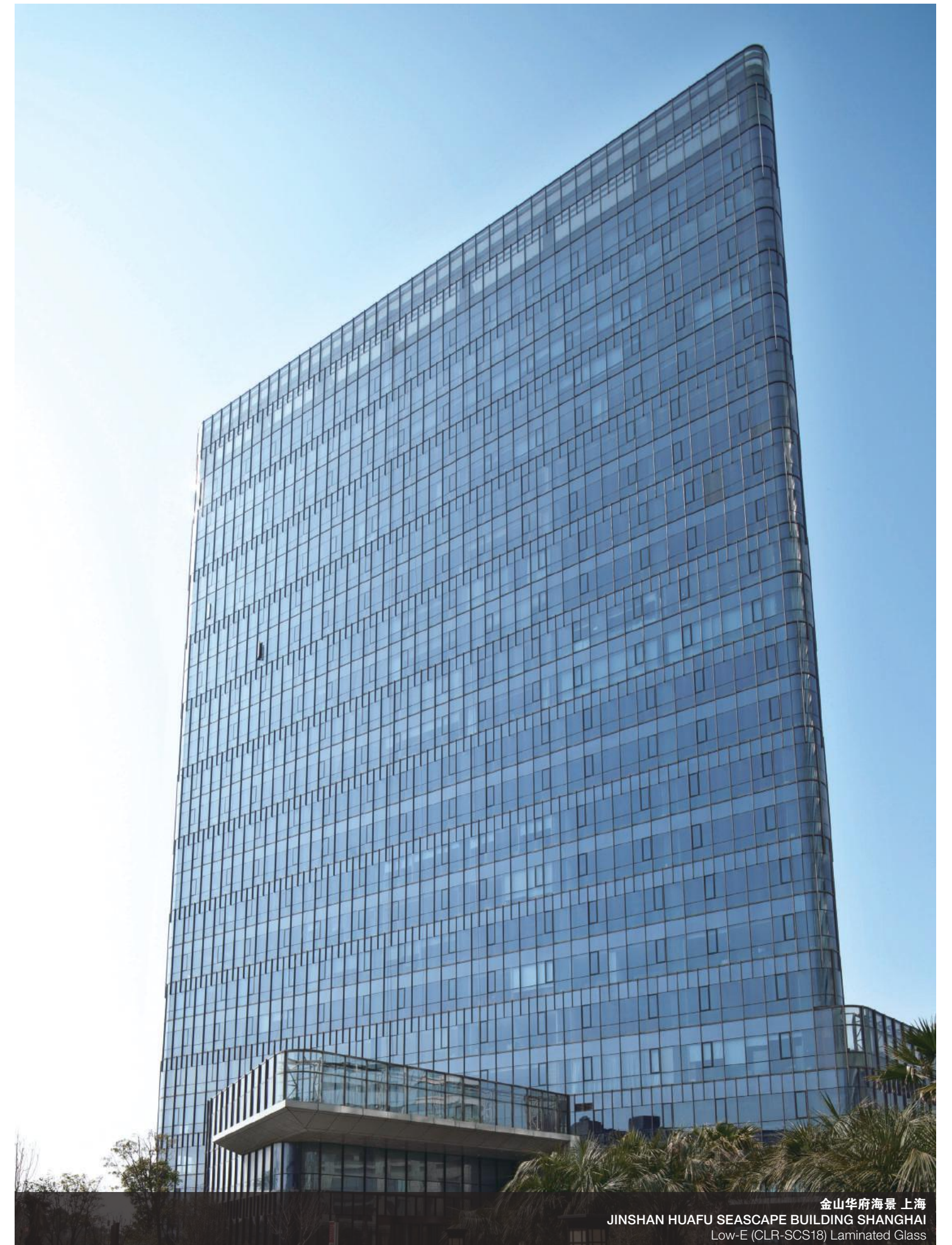
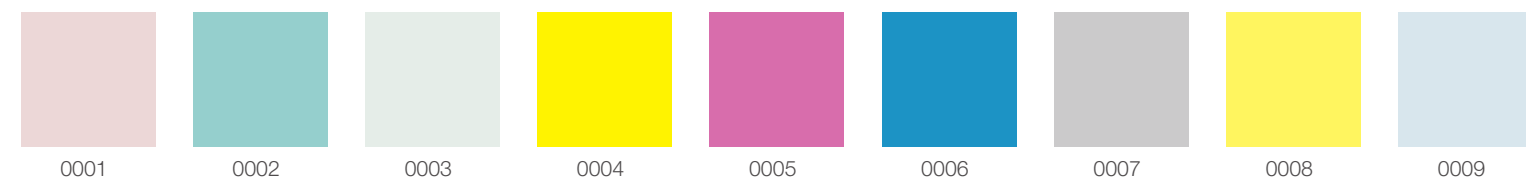
防紫外线特性比较曲线 Comparative Ultraviolet Screening Performance



- 1/4 (6mm) Clear Float Glass
- 1/4 (6mm) Laminates
 - Clear 0.015 (0.38mm)
 - Clear 0.030 (0.76mm)
 - Clear 0.060 (1.52mm)

※Data are based on samples tested and are not guaranteed for all samples or all Circumstances, which may vary from those present during testing. 此数据乃根据样本测试而得，并不保证所有样品与环境下皆可得到相同之数据。

夹胶玻璃 PVB 膜基本色样 STANDARD COLORS OF PVB INTERLAYER



金山华府海景 上海
JINSHAN HUAFU SEASCAPE BUILDING SHANGHAI
Low-E (CLR-SCS18) Laminated Glass

Laminated Glass
夹胶玻璃



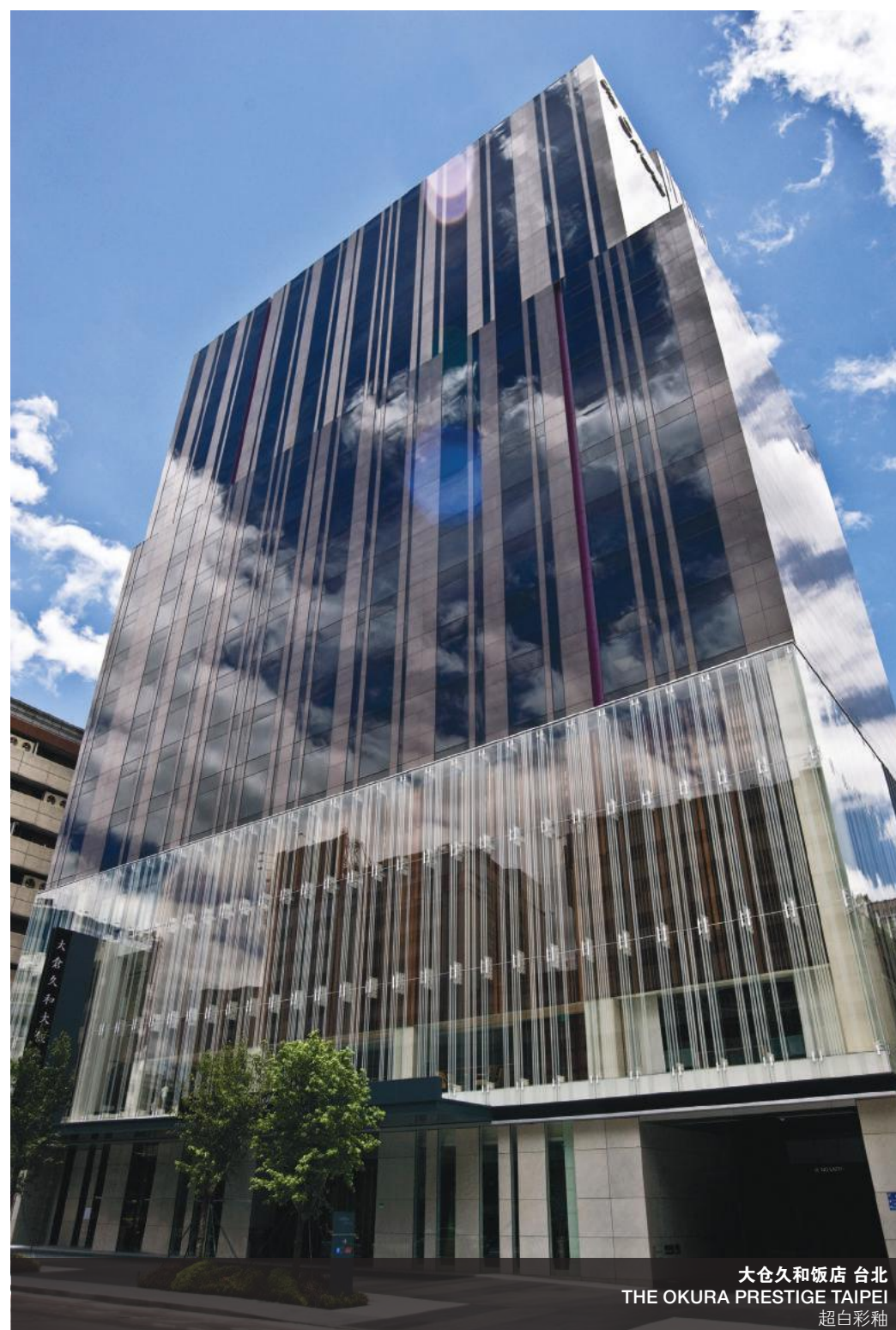
双流机场 T2 航站楼 成都
SHUANGLIU INTERNATIONAL AIRPORT CHENGDU
Low-E Laminated Glass (TFE55/TRE54/PLE48) IGU

Ceramic Silkscreen Glass

彩釉玻璃

彩釉玻璃是将陶瓷漆料经过特殊设计的网板,将图案印刷至玻璃上,经由钢化炉将漆料热融入玻璃表面,而制成稳定不褪色、具各式图案变化的彩釉玻璃。

Ceramic Silkscreen glass is made by using ceramic frit to print graphics through a special screen onto float glass. Melt colorant into glass surface in a tempering furnaces and subsequently a silkscreen glass product with qualities of non-fading and multi-pattern is manufactured.



特性

- 色泽多样化, 图案多选择
彩釉玻璃有多种颜色及图案, 也能依设计需要订制图案, 创造空间设计独特性及美感。
- 防眩性
彩釉玻璃因局部印刷可降低玻璃眩光。
- 缓和日晒或阳光直射的强光
彩釉玻璃因有次序的局部印刷, 对日晒或阳光直射有缓和的作用。
- 安全性
彩釉玻璃经钢化处理, 强度增加, 安全性高。
- 耐久性、耐磨性、耐湿性
彩釉玻璃比一般的色料印刷玻璃更具耐久、耐磨、耐湿性。

用途

- 建筑外墙玻璃
- 店铺、住宅、学校等窗户玻璃
- 室内隔间图案玻璃
- 汽车玻璃、电器玻璃
- 家具及工艺玻璃
- 室内防滑地板、楼梯板

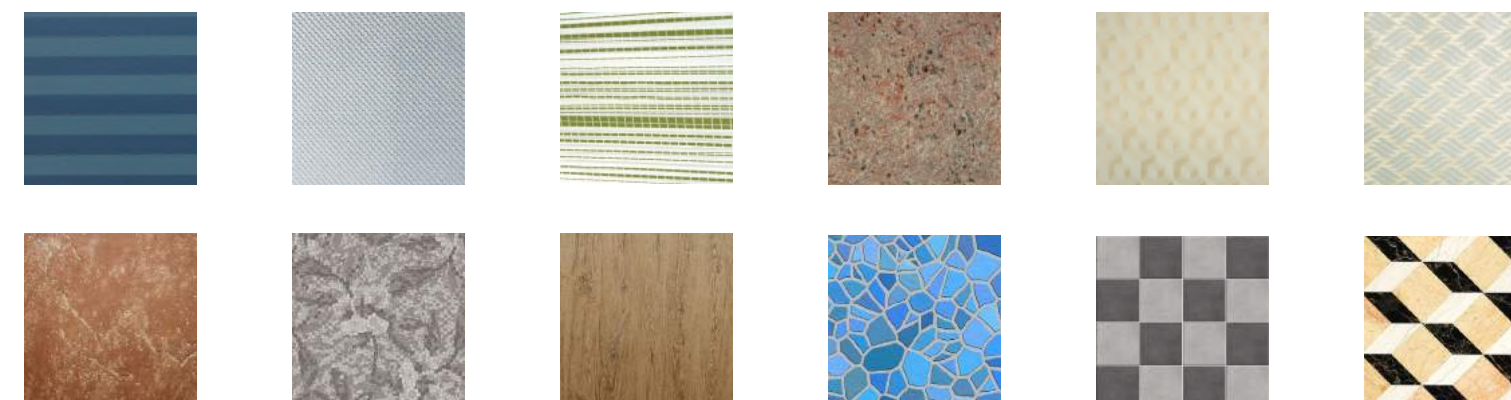
规格

- 厚度: 4~19mm
- 最大尺寸: 大陆: 98"×117" (2500mm×4500mm)
台湾: 118"×236" (3000mm×6000mm)
- 最小尺寸: 12"×12" (305mm×305mm)
- 图样: 点状、网状、线状、石纹状, 等多样化可随设计需要, 事先洽谈。

注意事项

- 钢化彩釉玻璃制成后无法切割, 订购时必须确认尺寸与形状。
- 如印刷颜色需另行调色, 或印刷之网板需另行制作时, 生产时间较为费时, 请预留生产时间。
- 建筑外墙、窗户使用时, 印刷面朝内。
- 印刷方式为单面印刷。(各类玻璃在网板印刷加工时, 有一定条件, 详情请洽本公司)
- 防滑彩釉用途, 请事先设计及说明, 以另作加工处理。

彩釉玻璃图案参考 PATTERNS FOR REFERENCE



Benefits

- Various color and graphic choices
Silkscreen glass offers variety in color and graphic which could also be custom-made to meet designing needs as well as create particularity of space design.
- Anti-glare
The partial printing of silkscreen glass reduces glare.
- Subduing westerly or direct sunlight
The sequentially partial printing of silkscreen glass subdues westerly of direct sunlight.
- Safety
Silkscreen glass is tempered to improve safety.
- Durable, wear-proof, moisture-resistant
Silkscreen glass has higher durability, scratch-proof, moisture-resistant than ordinary color printed glass.

Applications

- Architectural external wall
- Window glass for shop, houses and schools
- Graphic glass for interior partition
- Auto glass, electric glass
- Furniture and art glass
- Anti-slip indoor floor and staircase. (Specify in advance)

Specification

- Thickness :4~19mm
- Max. size: China: 98"×117" (2500mm×4500mm)
Taiwan:118"×236" (3000mm×6000mm)
- Min. Size:12"×12" (305mm×305mm)
- Graphics: Various patterns including spots, net patterns, linear and stone-veined to meet designing needs. please specify requirement before order production.

Notes

- Silkscreen glass cannot be recut after it is manufactured. Please confirm size and dimension when placing orders.
- If special color or silkscreen is required, the production of Silkscreen glass will take longer as the color and silkscreen must be reprepared.
- The printing method is one-side printing.
- When glazing for facade or window, printed side should be faced inward.
- For anti-slipping silkscreening purposes, please offer design and specs in advance to allow additional process.

Ceramic Spandrel Glass 漆板玻璃

漆板玻璃是将陶瓷漆料印刷在浮法玻璃上,干燥后再经由钢化炉将漆料热融入玻璃表面,而制成安定不褪色且富色彩的烤漆玻璃。

Ceramic Spandrel glass is made by printing ceramic frit on float glass and by melting the colorant into glass surface in tempering furnaces and subsequently a spandrel glass product with qualities of non-fading and multi-color is manufactured.

特性

- 色泽多样化, 稳定不褪色
漆板玻璃能依设计需要配出各种颜色美观、多变化, 且因采用陶瓷漆料, 色泽稳定度高。
- 节省能源
漆板玻璃能阻隔太阳热源, 可降低空调费用。
- 建材轻量化
漆板玻璃可替代石材、瓷砖、金属板, 减轻外墙结构负荷, 且施工容易。
- 抗风压强度高
漆板玻璃可加工成钢化夹胶玻璃, 或热处理增强夹胶玻璃。

用途

- 建筑外墙玻璃
- 室内隔间图案玻璃
- 汽车玻璃
- 家具玻璃及工艺玻璃

规格

- 厚度: 4~19mm
- 最大尺寸:
大陆: 98"×117" (2500mm×4500mm)
台湾: 118"×236" (3000mm×6000mm)
- 最小尺寸: 12"×12" (305 mm×305mm)

Benefits

- Various colors, stable and durable
Spandrel glass offers designers a wide range of color possibility, aesthetic value and variety. Ceramic frit assures stable color.
- Energy-saving
Spandrel glass can reduce air-conditioning cost by insulating solar heat.
- Light-weighted building material
Spandrel glass serves as substitute for stone, tile, metal plate and reduces structural load on the external wall. Glazing is also easy.
- High wind pressure resistance
Spandrel glass can be processed into laminated tempered glass or laminated heat-strengthened glass products.

Applications

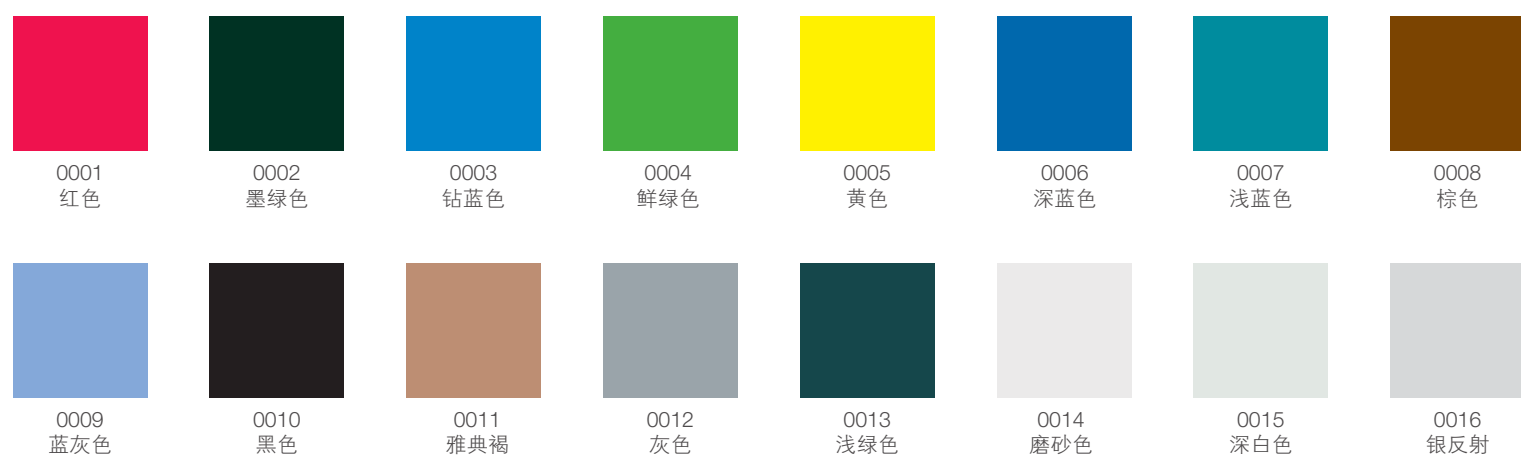
- Facade
- Graphic glass for interior partition
- Auto glass
- Furniture and art glass

Specification

- Thickness: 4~19mm
- Max. size:
China: 98"×117" (2500mm×4500mm)
Taiwan: 118"×236" (3000mm×6000mm)
- Min. size: 12"×12" (305 mm×305mm)

漆板玻璃标准颜色参考

STANDARD COLORS OF CERAMIC SPANDREL GLASS



Mirror Glass 镜板玻璃

镜板玻璃是采用表面平滑的浮法平板玻璃在其背面涂上银膜、铜膜, 以及二层防水保护漆等三重加工程序而制成。

几经努力台玻集团环保银镜研发成功, 该产品运用无铜膜制程, 两层防水保护漆而原料不添加铅, 可避免铜、铅等重金属污染。

Mirror glass is produced by coating a silver film, a copper film and two layers of waterproof paint on the back of flat and parallel float glass.

After years of endeavor, a new kind of TG product named Ecological Silver Mirror came into being. The product which uses noncopper film process and two layers of waterproof paint can prevent metal contamination with copper and lead by adopting non-lead materials.

特性

- 影像清晰、精准。
- 背漆耐酸、耐湿。

用途

- 装饰、家俱用。
- 汽车后视镜。

规格

- 厚度: 1.3~10mm
- 最大尺寸: 103"×144" (2610mm×3660mm)
- 贴膜安全镜板
厚度: 1.3~6mm
最大尺寸: 48"×144" (1219mm×3658mm)

Benefits

- Clear and exact images.
- The backing paint resists acid and moisture.

Applications

- Decoration and furniture.
- Rearview mirror for automobile.

Specification

- Thickness: 1.3~10mm
- Max.size: 103"×144"(2610mm×3660mm)
- Safety mirror with vinyl back Thickness 1.3~6mm
Max.size: (1219mm×3658mm)

磨边玻璃 Edged Glass

类别	加工边形		厚度 mm	尺寸 mm	备注
	不抛光	抛光			
	直边 (FE)	直边 (FE+P)	3 ~19	小: 150X150 最大: 高 2440 每片重 ≤150kg	意大利 SCHIATTI 设备
	斜边 (BE)	斜边 (BE+P)	4 ~ 19	最小: 150X150 最大: 高 2440 每片重 ≤150kg	意大利 BOTTERO 设备
	圆弧边 (RE)	圆弧边 (RE+P)	5 ~ 16	长边 / 短边 ≤2 最小: Φ500 (对角线) 最大: Φ1500 (对角线)	加工种类: 圆形、椭圆及方形玻璃
	鸭嘴边 (OG)	鸭嘴边 (OG+P)	5 ~ 16	长边 / 短边 ≤2 最小: Φ500 (对角线) 最大: Φ1500 (对角线)	加工种类: 圆形、椭圆及方形玻璃
	双边 (DE)	双边 (DE+P)	5 ~ 16 常用 3 ~ 18	最小: 160 155 最大: 1524 1270	意大利 SCHIATTI 设备

Contact information

联系方式

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F. 886-2-2715-0333
E.TGI@TAIWANGLASS.COM

台湾汽车玻璃有限公司

T. 886-4-2639-0333
F. 886-4-2639-3515
E.TAG@TAIWANGLASS.COM

台玻长江玻璃有限公司

T. 86-512-5744-0001
F. 86-512-5744-0666
E.CFG@TAIWANGLASS.COM

台玻昆山玻璃有限公司

T. 86-512-5744-0001
F. 86-512-5744-0666
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台玻青岛玻璃有限公司

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F. 86-532-8316-1203
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台玻安徽玻璃有限公司

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F. 86-550-2212-333
E.TAH@TAIWANGLASS.COM

台玻武汉工程玻璃有限公司

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F. 86-27-8329-5922
E.TWAR@TAIWANGLASS.COM

台嘉玻璃纤维有限公司

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台玻福建光伏玻璃有限公司

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F. 86-596-6981-000
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台玻凤阳硅砂有限公司

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F. 86-550-6651-999
E.TFS@TAIWANGLASS.COM

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